

# Exhibit JDM-2

## **EXHIBIT 3**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF PUERTO RICO**

In re:

THE FINANCIAL OVERSIGHT AND  
MANAGEMENT BOARD FOR PUERTO RICO,

as representative of

THE COMMONWEALTH OF PUERTO RICO *et al.*,

Debtors.<sup>1</sup>

PROMESA Title III

Case No. 17 BK 3283-LTS

(Jointly Administered)

In re:

THE FINANCIAL OVERSIGHT AND  
MANAGEMENT BOARD FOR PUERTO RICO,

as representative of

PUERTO RICO ELECTRIC POWER AUTHORITY,

Debtor.

PROMESA Title III

Case No. 17 BK 4780-LTS

(This court filing relates only to  
Case No. 17 BK 4780-LTS)

---

<sup>1</sup> The Debtors in these Title III Cases, along with each Debtor's respective Title III case number and the last four (4) digits of each Debtor's federal tax identification number, as applicable, are the (i) Commonwealth of Puerto Rico (Bankruptcy Case No. 17 BK 3283- LTS) (Last Four Digits of Federal Tax ID: 3481); (ii) Puerto Rico Sales Tax Financing Corporation ("COFINA") (Bankruptcy Case No. 17 BK 3284-LTS) (Last Four Digits of Federal Tax ID: 8474); (iii) Puerto Rico Highways and Transportation Authority ("HTA") (Bankruptcy Case No. 17 BK 3567-LTS) (Last Four Digits of Federal Tax ID: 3808); (iv) Employees Retirement System of the Government of the Commonwealth of Puerto Rico ("ERS") (Bankruptcy Case No. 17 BK 3566-LTS) (Last Four Digits of Federal Tax ID: 9686); and (v) Puerto Rico Electric Power Authority ("PREPA") (Bankruptcy Case No. 17 BK 4780-LTS) (Last Four Digits of Federal Tax ID: 3747).

**EXPERT REPORT OF  
SANDRA RINGELSTETTER ENNIS**

**NERA ECONOMIC CONSULTING, INC.**

**October 3, 2018**

## TABLE OF CONTENTS

Table of Contents .....	3
List of Exhibits.....	4
I. Qualifications and Background.....	5
A. Qualifications .....	5
B. Assignment .....	6
C. Background .....	7
II. Summary of Findings.....	9
III. PREPA Is Systematically Mismanaged, Which Adversely Affects PREPA as well as the People of Puerto Rico and Other Stakeholders .....	11
A. PREPA Mismanages Its Generation, Transmission, and Distribution Assets .....	11
B. PREPA Mismanages Its Human Resources.....	19
C. PREPA Mismanages Its Customer Service and Theft Prevention.....	22
D. PREPA Mismanages Its Collection Practices.....	24
E. PREPA Mismanages Its Budgeting, Financial Controls, Accounting, and Recordkeeping 28	
F. PREPA Mismanages Its Procurement and Contract Negotiations .....	30
IV. PREPA Has Been Subject to Politicization, to the Detriment of PREPA as an Operating Entity and the Customers It Serves .....	32
A. Executive-Level Politicization.....	33
B. The Politicization of Management.....	34
C. Lack of Strategic Direction and Inability to Set Priorities.....	36
D. Significant Political Interference Since 2017 .....	38
V. PREPA Needs Independent and Professional Management.....	41
A. PREPA Requires a Fundamental Transformation of Its Management Practices before It Can Effectively Transform Its Operations .....	41
B. Transforming PREPA Will Take Time.....	46
C. A Receiver Will Help PREPA Meet Immediate and Necessary Objectives .....	49
VI. Miscellaneous .....	51

## LIST OF EXHIBITS

Exhibit 1.	Expert CV – See Attached .....	6
Exhibit 2.	Materials Relied Upon – See Attached .....	7
Exhibit 3.	PREPA Generation Fleet Outage Rate Relative to U.S. Petroleum-Fueled Generation Fleet Outage Rates .....	13
Exhibit 4.	PREPA Operational Statistics Compared to U.S. Mainland Utilities.....	15
Exhibit 5.	PREPA Net Accounts Receivable Balance.....	27
Exhibit 6.	PREPA’s Total Net Accounts Receivable Compared to Large Publicly-Owned Utilities.....	28
Exhibit 7.	Estimated Future Cost Savings from Correcting PREPA’s Contracting Errors ....	31
Exhibit 8.	Executive Directors of PREPA, 2007-2018.....	34
Exhibit 9.	PREPA’s Short-Term Goals Listed in Its Current Fiscal Plan — See Attached ...	42

## **I. QUALIFICATIONS AND BACKGROUND**

### **A. Qualifications**

1. I am a Managing Director in the Energy, Environment, Communications, and Infrastructure Practice of NERA Economic Consulting (NERA), as well as NERA's Chief Operating Officer responsible for all operations including finance, technology services, marketing, human resources, and project management. I am located in Chicago, Illinois. NERA is a global company that specializes in providing advisory and litigation support services involving economic analysis. I received a bachelor's degree in industrial engineering from the University of Wisconsin-Madison in 1987 and a master's degree in industrial engineering from the University of Wisconsin-Madison in 1989.

2. I have been working in the electric industry for over thirty years, initially as an engineer in the resource planning department of an electric and gas utility, and then as a consultant in the areas of power market assessment, power market price forecasting, power plant valuation, financing support, due diligence and transaction support, emissions analyses for New Source Review compliance, and methodologies and algorithms for the simulation of electric systems. Prior to joining NERA in 2003, I held the positions of Chief Operating Officer and Vice President at e-Acumen, Inc., a software and advisory services company that developed software tools for the electric industry, including tools to simulate generating unit dispatch and electricity market price forecasting. Prior to joining e-Acumen in 2000, I held the position of Vice President at PHB Hagler Bailly, where I led teams of analysts performing electric system modeling of all the regional electricity markets in North America for several utility divestitures and asset sales. Prior to PHB Hagler Bailly, I was a Principal Engineer at R.W. Beck, where I was responsible for production cost modeling for several public power clients as the consulting engineer of record. Prior to that, I was an engineer in the resource planning department of Madison Gas and Electric Company.

3. My current practice focuses on issues in the electric industry, with an emphasis on generation, valuation and appraisal of energy facilities in competitive markets, electric system modeling, and projections of future electricity market prices. The foundation of much of my work in

the electric sector is my expertise in the use of market simulation models, coupled with my engineering background and knowledge of power plant operations. My project work over the last decade has involved detailed review and analysis of operating data as well as detailed review and analysis of projections prepared by system planning groups. My experience in electric utility resource planning and wholesale markets includes extensive production cost modeling, as highlighted in my qualifications listed in Exhibit 1.

4. My curriculum vitae is attached as Exhibit 1.

Exhibit 1. *Expert CV – See Attached*

5. NERA is being compensated for its time at standard billing rates and its out-of-pocket expenses at cost. My current hourly rate is \$850. The rates charged for other NERA personnel working at my direction on this matter range from \$250 to \$850 per hour. NERA's compensation is not contingent upon the nature of my findings or on the outcome of this matter.

## **B. Assignment**

6. I have been retained by Counsel for National Public Finance Guarantee Corporation, Assured Guaranty Corp., Assured Guaranty Municipal Corp., and Syncora Guarantee, Inc. (collectively, "Movants") in the PROMESA Title III proceedings before the United States District Court for the District of Puerto Rico. I submit this declaration in connection with and in support of the Movants' *Motion of National Public Finance Guarantee Corporation, Assured Guaranty Corp., Assured Guaranty Municipal Corp., and Syncora Guarantee Inc. for Relief from the Automatic Stay to Allow Movants to Enforce Their Statutory Right to Have a Receiver Appointed*. The Movants together hold approximately \$2.3 billion of the approximately \$8.3 billion in total aggregate amount of principal value with respect to all outstanding bonds issued by the Puerto Rico Electric Power Authority ("PREPA").

7. I have been asked by Counsel for the Movants to assess the record of publicly available information and other information available through these proceedings in order to determine whether an independent and qualified receiver is the best solution to the continuing management issues facing PREPA and affecting all its stakeholders, including the citizens of Puerto Rico.



8. My analysis has been based on documents from; 1) PREPA and its current and previous management; 2) FTI and AlixPartners, PREPA's former consultants which provided PREPA management with advice and assisted PREPA with its previous restructuring efforts; 3) the Financial Oversight and Management Board ("FOMB"), and the investigator retained by the FOMB; 4) the Puerto Rico Energy Bureau (formerly known as the Puerto Rico Energy Commission), ("PREC"); 5) testimony before the court and other governmental entities regarding PREPA; 6) third-party reports regarding PREPA; 7) credit rating agency publications; 8) industry publications and data; 9) the Securities and Exchange Commission and other public sources regarding other electric utility companies; 10) press articles; and 11) other relevant information obtained during the preparation of this report.

9. The materials considered in the preparation of this report are listed in Exhibit 2.

Exhibit 2. *Materials Relied Upon – See Attached*

### **C. Background**

10. The Commonwealth of Puerto Rico created PREPA by Law No. 83, passed in 1941.<sup>2</sup> In 2014, the legislature of Puerto Rico passed Act 57-2014 to address PREPA's "operational, managerial, and administrative deficiencies."<sup>3</sup> Act 57-2014 created, for the first time, an expert and independent regulator for PREPA, known as the Puerto Rico Energy Commission.<sup>4</sup> In August 2018, the legislature of Puerto Rico passed a bill that would consolidate PREC into the Puerto Rico Public Service Regulatory Board.<sup>5</sup>

---

<sup>2</sup> PREPA's original name was Puerto Rico Water Resources Authority, and it was changed to "PREPA" in 1979. "History of PREPA", PREPA website, available at <https://www.aeepr.com/INVESTORS/History.aspx>.

<sup>3</sup> 2014 Puerto Rico Laws Act 57 (S.B. 837), (codified at P.R. Laws Ann. tit. 22, § 1051) ("Act 57-2014")

<sup>4</sup> PREC is now called the Puerto Rico Energy Bureau. This entity is referred to as "PREC" in this report.

<sup>5</sup> 2018 Puerto Rico Laws Act 211.

11. PREPA is the largest municipal utility in the United States measured by number of customers, serving Puerto Rico's approximately 1.5 million customers.<sup>6</sup> PREPA generates approximately 85% of the electricity in Puerto Rico, and distributes almost all the power distributed to the citizens, businesses, and governmental entities of Puerto Rico.<sup>7</sup> PREPA's system includes 31 major generation units in 20 facilities with a combined capacity of 6,085 megawatts ("MW"), of which 4,892 MW is operated by PREPA. A little less than half of the electricity PREPA or its associated Independent Power Producers ("IPP") generated in Fiscal Year 2017 (prior to Hurricane Maria) was generated using petroleum, approximately one-third was generated using natural gas, and approximately 2 percent was generated from renewable energy sources. In addition, AES, an IPP, operates a coal-fired generation facility.<sup>8</sup>

12. PREPA's most recent audited financial statements are for the fiscal year ending June 30, 2015. Those financial statements were completed years later, in April 2018. In Fiscal Year 2015, PREPA generated approximately \$3.9 billion in revenue and incurred operating losses of approximately \$323 million. As of June 30, 2015, PREPA owed approximately \$9.2 billion in Notes Payable and Power Revenue Bonds.<sup>9</sup>

13. As a territory, Puerto Rico was ineligible to file for bankruptcy under the municipal section of the Bankruptcy Code. In 2016, the U.S. Congress passed the Puerto Rico Oversight, Management, and Economic Stability Act ("PROMESA"), which allowed Puerto Rico to file for bankruptcy-like protections.<sup>10</sup>

14. On July 2, 2017, the FOMB, on behalf of PREPA, initiated a Title III proceeding under PROMESA. On September 6, 2017, Puerto Rico was struck by Hurricane Irma. Then, on

---

<sup>6</sup> "Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018," p. 19, *available at* <https://aeepr.com/Docs/Fiscal%20Plan%20-%20PREPA%20-%20CERTIFIED.pdf>.

<sup>7</sup> "Puerto Rico Territory Energy Profile," U.S. Energy Information Administration, *available at* <https://www.eia.gov/state/analysis.php?sid=RQ>.

<sup>8</sup> "AES Puerto Rico," AES Puerto Rico website, *available at* <http://aespuertorico.com/quienes-somos/>

<sup>9</sup> "Financial Statements, Required Supplementary Information, and Supplemental Schedules: Puerto Rico Electric Power Authority (A Component Unit of the Commonwealth of Puerto Rico) Year ended June 30, 2015, pp. 8-9, *available at* <https://www.aeepr.com/INVESTORS/DOCS/Financial%20Information/Annual%20Reports/PREPA%20Audited%20Financial%20Statements%20-%20June%2030%202015.pdf>.

<sup>10</sup> Public Law 114-187.

September 20, 2017, Puerto Rico was struck by Hurricane Maria, which caused extensive damage to PREPA, particularly its transmission and distribution infrastructure.

## **II. SUMMARY OF FINDINGS**

15. I was asked by Counsel for the Movants to address the following questions:

a. Explain the record of PREPA's management as it relates to:

i. Managing its physical assets;

ii. Managing its human resources;

iii. Managing its customer service functions;

iv. Managing its collections;

v. Managing its budgeting, accounting, and recordkeeping process; and

vi. Managing its procurement and negotiating contracts.

b. Analyze the role, if any, of politicization in PREPA's management.

c. Determine the implications for the management of PREPA moving forward, including whether the appointment of an independent receiver would better serve the interests of PREPA and its stakeholders.

16. My findings can be summarized as follows:

a. Electric utilities serve the important function of providing reliable electricity in their communities. To do so, the management of electric utilities must perform certain functions competently and consistently. PREPA mismanages essentially every significant function. These functions include:

- i. Maintenance of the utility's generation, transmission, and distribution assets;
  - ii. Proper management of the workforce to ensure that the right people are hired for the right positions, and that they are properly trained and provided a safe working environment;
  - iii. Performance of customer service and maintenance of customer accounts;
  - iv. Timely collection of customer bills and management of accounts receivable;
  - v. Competent budgeting and maintenance of financial records to understand how the business is receiving and spending money; and
  - vi. Procurement and negotiation of contracts with third parties.
- b. The management of PREPA has been, and continues to be, politicized. Examples include:
  - i. The executive level of management has been politicized, with both the Board of Directors and Executive Director being replaced by every new Commonwealth administration (if not more frequently), resulting in unstable leadership. PREPA has had five different Executive Directors in the last year;
  - ii. The management level has also been politicized, where the top 150 to 300 employees have been selected by the Commonwealth's governor for political consideration, rather than skills or experience;

- iii. Because of this politicization at all levels of management, PREPA has been unable to set strategic priorities or implement management plans; and
- iv. Significant political interference has occurred since 2017, including through a restructuring of PREPA's regulatory framework that was established in 2014.

- c. Independent and professional management free from politicization, such as an independent receiver, is PREPA's best opportunity to transform itself into a functional utility providing reliable electricity to the citizens of Puerto Rico.

### **III. PREPA IS SYSTEMATICALLY MISMANAGED, WHICH ADVERSELY AFFECTS PREPA AS WELL AS THE PEOPLE OF PUERTO RICO AND OTHER STAKEHOLDERS**

17. An electric utility has three core functions in the delivery of electricity to its customers: the generation, transmission, and distribution of electricity. The assets used to generate, transmit, and distribute electricity are capital-intensive and relatively long-lived. Most public utilities face limited competition given the regulatory compact—that is, the agreement between the utility and the government where the utility accepts an obligation to serve its customers in return for the government's promise to set rates that will compensate the utility fully for the incurred costs. Rates are usually determined by regulators based on the cost of service and are designed to recover all prudently incurred costs.

#### **A. PREPA Mismanages Its Generation, Transmission, and Distribution Assets**

18. PREPA's physical infrastructure has been poorly maintained. Prior to Hurricane Maria, PREPA's physical infrastructure was "unreliable and in disrepair," with an "ailing grid," a "degraded infrastructure," and a "deteriorated" transmission system.<sup>11</sup> Following the hurricane,

---

<sup>11</sup> CEPR-AP-2015-0001, "Final Resolution and Order," Puerto Rico Energy Commission, January 10, 2017, pp.16-17.

PREPA has not substantially begun efforts to address these maintenance issues or to harden its transmission and distribution capabilities, as discussed further below.

19. According to PREPA's August 1, 2018 Fiscal Plan ("Current Fiscal Plan"), PREPA's generation units have frequent outages, 12 times more often than the mainland U.S. average.<sup>12</sup>

20. PREC concluded that the deteriorated condition of PREPA's generation fleet was not due to wear and tear, but rather to "systematic maintenance failures, a failure to perform predictive maintenance, operational errors, and faulty repairs."<sup>13</sup> Similarly, Governor Rosselló stated that PREPA "practically abandoned" the maintenance of its infrastructure for a decade.<sup>14</sup> In other words, the generation assets were in disrepair due to PREPA's mismanagement.

21. PREPA's generation underperformance is not attributable to the age of its generation assets. While the average age of PREPA's generation facilities is 44 years, the average age of other petroleum-fueled facilities using steam turbines in the mainland United States is 43 years.<sup>15</sup>

22. To analyze the performance of PREPA's generation fleet, I compared its "System Efficiency," as reported in its Monthly Operating Reports, to the forced outage rates for other petroleum-fueled generators in the United States. Multiple measures of forced outage rates are used in the industry, but because it is not clear which outage rate most closely corresponds to PREPA's reported "system efficiency," I have compared PREPA's performance to two commonly used measures, the Forced Outage Rate ("FOR") and the Equivalent Forced Outage Rate ("EFOR"). The FOR describes the amount of time that a generating unit is fully unavailable (no generation is available), and the EFOR describes the amount of time that the unit is fully unavailable and the time when it is partially unavailable (cannot generate at its full rated capacity).<sup>16</sup> PREPA performed worse than U.S. national averages for petroleum-fueled generators, which have a similar average age to the PREPA facilities, by any of the fleet outage measures. Whereas the average petroleum-fueled

---

<sup>12</sup> "Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018," p. 20.

<sup>13</sup> CEPR-AP-2015-0001, "Final Resolution and Order," Puerto Rico Energy Commission, January 10, 2017, p. 66.

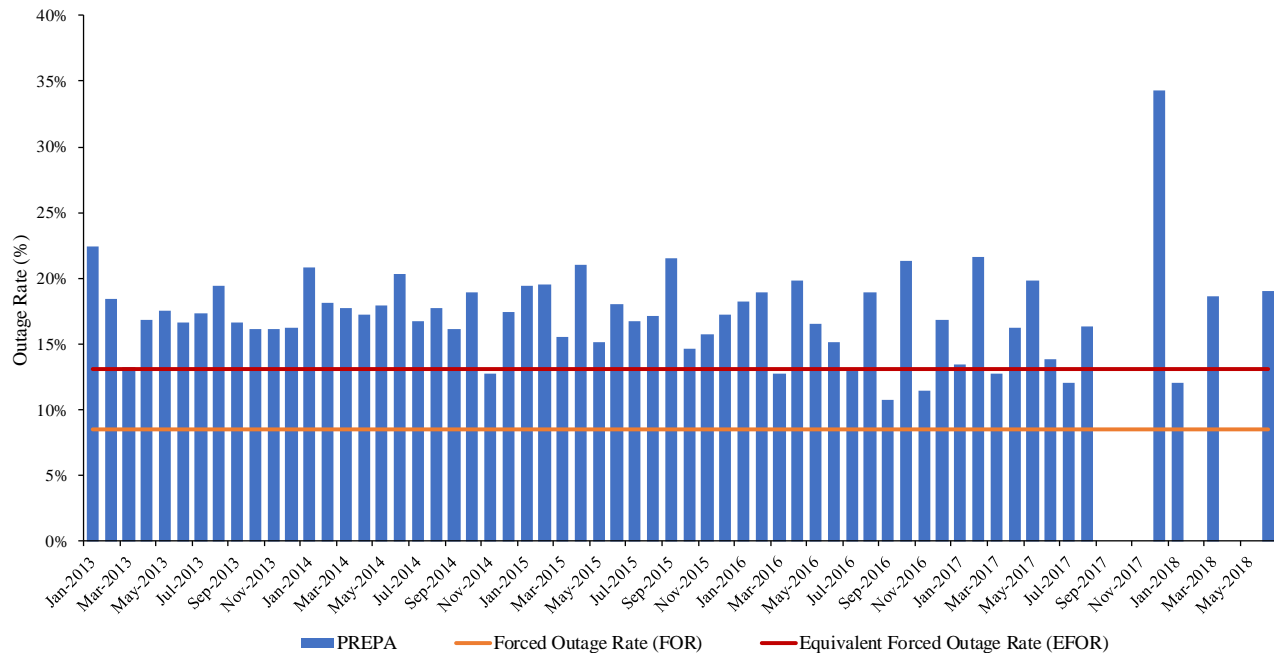
<sup>14</sup> Ricardo Rosselló, "Message of the Governor of Puerto Rico," January 22, 2018.

<sup>15</sup> "New gas, renewable plants keep 2017 average fleet age at 29 years," SNL Data Dispatch, January 16, 2018.

<sup>16</sup> I have calculated PREPA's outage rate as equal to (100- "system efficiency").

generator suffered outages 8.5 to 13.1 percent of the time, the PREPA facilities were unavailable 17.3 percent of the time on average. This does not include outages related to the immediate aftermath of Hurricane Maria. In other words, while the PREPA generators were the same age on average as mainland petroleum-fueled generation units, their outage performance was worse.

Exhibit 3. *PREPA Generation Fleet Outage Rate Relative to U.S. Petroleum-Fueled Generation Fleet Outage Rates*



**Notes and Sources:**

- Data are from PREPA Monthly Reports to the Governing Board and NERC Generating Unit Statistical Brochure 2, as of 2017. PREPA did not report system efficiency in September through November in 2017, and February, April and May in 2018.
- PREPA's outage rates are compared to North America Average Forced Outage Rates for 52 Oil-Fired Units of all sizes. NERC notes that more than 50% of electricity generating capacity in the US was built before 1980, and more than 50% of all generating capacity is at least 30 years old.
- Outage rate for PREPA is calculated as (100 - System Efficiency).
- Forced Outage Rate (FOR) measures the reliability of a unit during scheduled operation. Equivalent Forced Outage Rate (EFOR) is the probability that a unit will not meet its rated capacity.

23. PREPA also has not maintained its transmission infrastructure. As described by PREPA's director of transmission and distribution, "The fact is that we are facing a high level of deterioration in the system. Just to give you an idea, in the first 110 days of this fiscal year [FY2017],

we have faced 38 major transmission line outages. And when I say 38, we mean that in all of those outages, we had a high risk of conductors on the floor.”<sup>17</sup>

24. SAIFI, SAIDI, and CAIDI are some of the indices used to measure electric utility distribution system reliability. These standard metrics are used by PREPA and throughout the electric utility industry to measure outage rates of the distribution system, by looking at the frequency and duration of power outages affecting customers.<sup>18</sup> Specifically, SAIFI is the measure of the average *frequency* of an outage. SAIDI is the measure of the average *duration* of an outage. CAIDI is the average *interruption duration*. The higher that SAIFI, SAIDI, and CAIDI are, generally speaking, the worse the performance of the utility is in terms of providing consistent, reliable power and responding to issues when they arise. For PREPA, all of these metrics were much higher than U.S. benchmarks even before Hurricane Maria. PREPA attributed its substandard outage record prior to Hurricane Maria to its practice of delaying maintenance and repairs.<sup>19</sup>

25. Exhibit 4 compares PREPA’s performance to the median, upper quartile, and lower quartile utility in U.S. mainland using the SAIFI, SAIDI, and CAIDI operating and service interruption metrics. That comparison establishes that both the frequency and the duration of PREPA’s service interruption rates are much higher than for U.S. mainland utilities, even before Hurricane Maria.

---

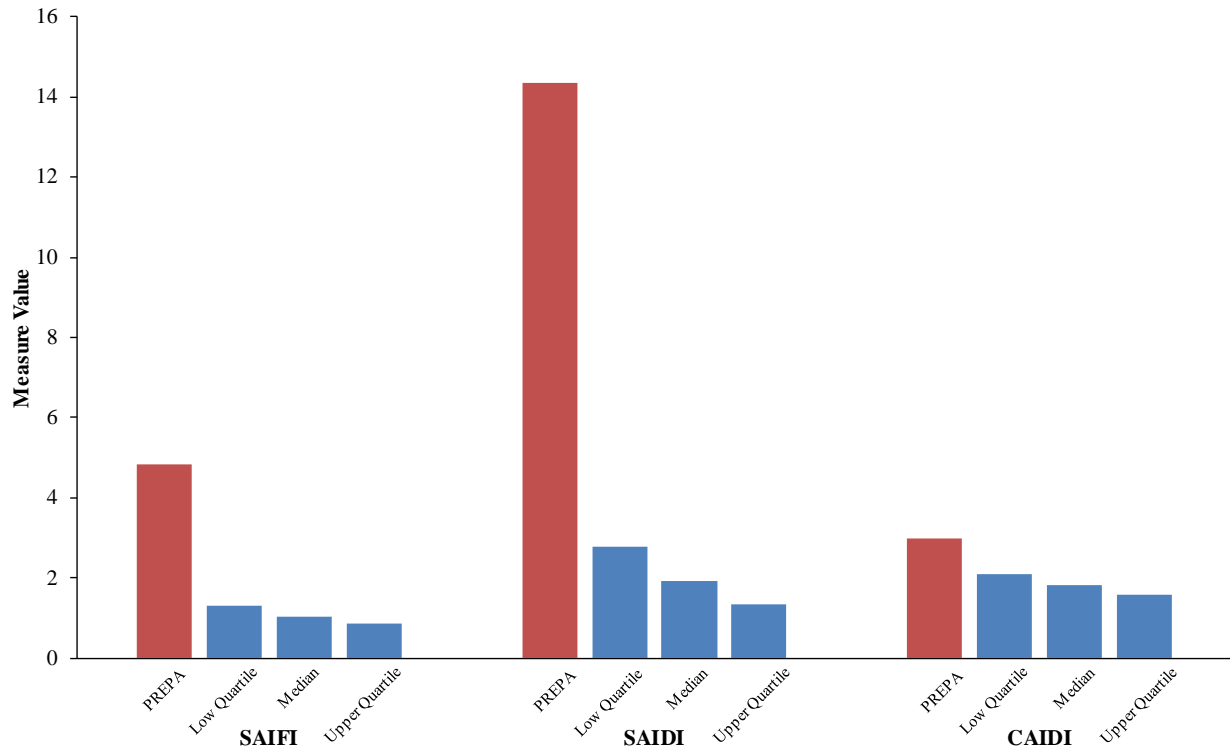
<sup>17</sup> My understanding is that “conductors on the floor” refers to downed transmission equipment. CEPR-AP-2015-0001, “Final Resolution and Order,” Puerto Rico Energy Commission, January 10, 2017, pp.20-21.

<sup>18</sup> SAIFI stands for System Average Interruption Frequency Index. SAIDI stands for System Average Interruption Duration Index. CAIDI stands for Customer Average Interruption Duration Index.

<sup>19</sup> CEPR-AP-2015-0001, “Final Resolution and Order,” Puerto Rico Energy Commission, January 10, 2017, p. 17.



Exhibit 4. *PREPA Operational Statistics Compared to U.S. Mainland Utilities*



**Notes and Sources:**

- SAIFI is System Average Interruption Frequency Index and is calculated as (number of annual customer interruptions) / (number of customers).
- SAIDI is System Average Interruption Duration Index and is calculated as (sum of annual customer interruptions in hours) / (number of customers).
- CAIDI is Customer Average Interruption Duration Index and is calculated as (SAIDI) / (SAIFI).
- PREPA, "Puerto Rico Electric Power Authority: Fiscal Plan," August 1, 2018, p. 52.

26. Following Hurricane Maria, PREPA has mismanaged the repair of the electric grid. As described further below, significant errors by PREPA's management contributed to the deficient response following Hurricane Maria.

27. Mutual aid agreements are a cornerstone of any utility's disaster preparedness. The mutual aid agreement helps utilities that are struck by disasters ensure that they have access to the "significant logistical expertise, along with skilled line workers and specialized equipment" that help restore power.<sup>20</sup> However, after Hurricane Maria, PREPA's management failed to invoke this basic

<sup>20</sup> Edison Electric Institute, <http://www.eei.org/issuesandpolicy/electricreliability/mutualassistance/Pages/default.aspx>

hurricane response tool for approximately six weeks, from September 20, 2017 until October 31, 2017.<sup>21</sup>

28. PREPA's failure to prepare for and respond to Hurricane Maria was recognized by the FOMB. On October 26, 2017, approximately one month after Puerto Rico was struck by Hurricane Maria, the FOMB submitted an urgent motion requesting the appointment of a Chief Transformation Officer ("CTO"), to stand in the place of PREPA's management. The FOMB stated, "Existing PREPA management has taken certain independent steps in response to the destruction and devastation of PREPA's power grid, particularly its transmission and distribution systems. Unfortunately, despite PREPA management's efforts, restoring electricity efficiently and quickly to the island has not been achieved. ... The appointment of a CTO will enable a coordinated strategy for contracting recovery projects and streamlining funding under the direction of a seasoned professional with expertise in disaster response and recovery."<sup>22</sup>

29. Following Hurricane Maria, PREPA has not made meaningful progress in hardening its transmission and distribution infrastructure. In November 2017, the U.S. Senate Committee on Energy and Natural Resources identified making the Puerto Rico grid "more resilient to future weather events" as one of the primary goals of the recovery effort. In May 2018, the same committee lamented that this important goal was not "fully or adequately addressed."<sup>23</sup> A witness before the committee hearing testified that the grid was "hastily repaired."<sup>24</sup> In the same Congressional hearings,

---

<sup>21</sup> PREPA, "Letter to American Public Power Association and Edison Electric Institute," October 31, 2017, *available at* <http://www.eei.org/issuesandpolicy/electricreliability/mutualassistance/Documents/PREPA%20letter%20to%20EEI%20and%20APPA.pdf>.

<sup>22</sup> Case No. 17 BK 3283-LTS, *In re: The Financial Oversight and Management Board for Puerto Rico, et al.*, "Urgent Motion of Financial Oversight and Management Board for Puerto Rico for Entry of Order Confirming Appointment and Authority of Chief Transformation Officer," October 26, 2017, p. 2.

<sup>23</sup> Opening Statement of Senator Lisa Murkowski, "Full Committee Hearing on Puerto Rico Electric Grid," U.S. Senate Committee on Energy and Natural Resources, May 8, 2018, p. 1.

<sup>24</sup> Testimony of Rodrigo Masses, "Full Committee Hearing on Puerto Rico Electric Grid," U.S. Senate Committee on Energy and Natural Resources, May 8, 2018.

José Román Morales, Chair of PREC, testified that such hasty repairs were insufficient and that it was necessary to promote the development of a “resilient, modern and agile electric system.”<sup>25</sup>

30. The U.S. Department of Energy (“DOE”) also “recommends an enhanced program to mitigate corrosion of the guy wire anchor rods, improved right-of-way maintenance for access to structure locations, and updating of materials to more robust industry standard components.”<sup>26</sup> Comments such as these by the DOE reflect how far PREPA management has allowed its infrastructure to fall behind industry standards.

31. Hurricane Maria struck Puerto Rico over one year ago. In this period, PREPA has neither addressed its maintenance issues nor significantly hardened its transmission and distribution capabilities. As a result of PREPA’s deficient maintenance record, Puerto Rico’s transmission and distribution network remains “fragile and unstable,” in the words of Lisa Murkowski, Chair of the U.S. Senate Committee on Energy and Natural Resources.<sup>27</sup> According to PREPA’s own Executive Director José Ortiz, if a similar hurricane were to strike Puerto Rico again, the “electrical system would collapse as happened [when Maria struck].”<sup>28</sup> This poses an unacceptable risk, and implementing a plan to address this risk should be a top priority.

32. José Ortiz also indicated that PREPA will need to “redo” 20% of the post-hurricane repairs to its distribution system. He recently estimated that the development of new standards to implement the upgrade will take 18 months, and the overall program would take 3 to 4 years.<sup>29</sup> Better

---

<sup>25</sup> Testimony of Jose Roman Morales, “Full Committee Hearing on Puerto Rico Electric Grid,” U.S. Senate Committee on Energy and Natural Resources, May 8, 2018, p. 2.

<sup>26</sup> United States Department of Energy, “Energy Resilience Solutions for the Puerto Rico Grid – Final Report,” June 2018, pp. 20, *available at* [https://www.energy.gov/sites/prod/files/2018/06/f53/DOE%20Report\\_Energy%20Resilience%20Solutions%20for%20the%20PR%20Grid%20Final%20June%202018.pdf](https://www.energy.gov/sites/prod/files/2018/06/f53/DOE%20Report_Energy%20Resilience%20Solutions%20for%20the%20PR%20Grid%20Final%20June%202018.pdf).

<sup>27</sup> Opening Statement of Senator Lisa Murkowski, “Full Committee Hearing on Puerto Rico Electric Grid,” U.S. Senate Committee on Energy and Natural Resources, May 8, 2018, p. 1.

<sup>28</sup> “PREPA Claims to Be Better Prepared for the Hurricane Season,” *El Nuevo Día*, July 30, 2018.

<sup>29</sup> Gerardo E. Alvarado Leon, “PREPA will have to redo 20% of recovery work after the hurricane,” *El Nueva Día*, September 20, 2018.

planning and implementation by PREPA management post-hurricane could have resulted in not having to do this work twice.

33. Similarly, according to a recent report from the Center for American Progress, “Even though the lights are finally back on throughout Puerto Rico, serious challenges remain. The grid is still shaky - an accident by a repair crew plunged the entire island back into darkness in April of this year - and experts doubt its ability to weather another serious storm. In addition, rather than making the grid more resilient for future storms, restoration to ‘predisaster condition’ is usually the goal [for PREPA’s current management]. Furthermore, it is not clear that PREPA is meeting even this standard: Fredyson Martinez, Vice President of the Power Authority workers’ union, estimates that about 10 percent to 15 percent of the repair work [being undertaken by PREPA] does not meet basic quality standards. As a result, even with electricity service restored, there remains significant work to do to prepare Puerto Rico for the next storm.”<sup>30</sup>

34. The ongoing frequency and duration of outages is additional evidence of PREPA’s mismanagement of post-hurricane repairs. For example, in February 2018, there was an explosion and fire at an electrical substation, which knocked two more substations offline. Much of northern Puerto Rico lost power following the incident.<sup>31</sup> Just a few weeks ago, on September 14, 2018, Puerto Rico again experienced power outages that affected residents following Tropical Depression Isaac.<sup>32</sup> And on September 17, 2018, 33,000 residents of central Puerto Rico lost power after a fault affected a 115-kilovolt line.<sup>33</sup>

35. PREPA’s post-hurricane maintenance efforts also deviated from industry norms. Unlike PREPA, other utilities have worked to increase their storm resiliency, or “harden” their grids,

---

<sup>30</sup> Bonnie Krenz, “Building a Better Energy Future in Puerto Rico,” Center for American Progress, September 2018, p. 2.

<sup>31</sup> “Blackout hits northern Puerto Rico following fire, explosion,” Associated Press, February 12, 2018, *available at* <https://www.apnews.com/4b49c25c3cc94a8aba57acb90c99a685/Blackout-hits-northern-Puerto-Rico-following-fire,-explosion>.

<sup>32</sup> “Tropical Depression Isaac drenches Puerto Rico, sparks power outages,” *CBS News*, September 14, 2018, *available at* <https://www.cbsnews.com/news/tropical-depression-isaac-storm-puerto-rico-power-outages-reported-2018-09-14/>.

<sup>33</sup> “Puerto Rico utility fixes outage that left 33,000 in the dark,” *Caribbean Business*, September 17, 2018, *available at* <https://caribbeanbusiness.com/power-company-identifies-cause-of-outage-that-left-30000-in-the-dark/>.

especially following a major hurricane or other natural disasters. For example, Con Edison is a utility that services a territory including New York City and Westchester County, and it suffered outages following Super Storm Sandy in October 2012. Con Edison then implemented a program to mitigate damage from the next major storm. This hardening program included ensuring that all new equipment in flood zones was submersible; requiring new customers to have connections above grade; and coordination of new distribution assets with storm strategies.<sup>34</sup> Con Edison also strengthened its overhead components to withstand 110 mph wind gusts.<sup>35</sup> CenterPoint Energy serves a territory including the states of Arkansas, Louisiana, Minnesota, Mississippi, Oklahoma, and Texas. Following Hurricane Ike, it has hardened much of its grid to be resistant to higher wind speeds, and replaced non-compliant wood poles with steel or concrete poles.<sup>36</sup>

## **B. PREPA Mismanages Its Human Resources**

36. The issues with PREPA's physical infrastructure are due, in part, to the deficiencies in the experience, composition, and skills in its workforce. PREPA was historically "over-staffed."<sup>37</sup> PREPA apparently attempted to address this overstaffing by decreasing its workforce from 8,245 to 6,448 between 2014 and 2017.<sup>38</sup> But rather than reducing its bloated administration, PREPA instead lost experienced and skilled employees.<sup>39</sup> Indeed, PREPA attributed its poor maintenance practices, in part, to a "loss of [a] significant number of experienced personnel."<sup>40</sup> PREPA's distribution workforce decreased by 22 percent between 2014 and 2017.<sup>41</sup> With fewer qualified personnel,

---

<sup>34</sup> "Storm Hardening the Grid," T&D World Magazine, October 1, 2014, available at <https://www.tdworld.com/distribution/storm-hardening-grid>.

<sup>35</sup> "Storm Hardening the Grid," T&D World Magazine, October 1, 2014, available at <https://www.tdworld.com/distribution/storm-hardening-grid>.

<sup>36</sup> "Storm Hardening the Grid," T&D World Magazine, October 1, 2014, available at <https://www.tdworld.com/distribution/storm-hardening-grid>.

<sup>37</sup> Anne O. Krueger, Ranjit Teja, and Andrew Wolfe, "Puerto Rico, A Way forward," June 29, 2015, p. 8, *available at* <http://www.gdb.pr.gov/documents/puertoricoawayforward.pdf>.

<sup>38</sup> "Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018," p. 25.

<sup>39</sup> See Section IV.B below regarding the politicization of PREPA's staffing decisions.

<sup>40</sup> CEPR-AP-2015-0001, "Final Resolution and Order," Puerto Rico Energy Commission, January 10, 2017, p. 20.

<sup>41</sup> CEPR-AP-2015-0001, "Final Resolution and Order," Puerto Rico Energy Commission, January 10, 2017, p. 20.

construction crews were “shifted from preventative to reactive maintenance,” and PREPA failed to implement a “well-planned preventative maintenance program.”<sup>42</sup> In 2017, AlixPartners characterized the transmission and distribution maintenance program as “fire-fighting.”<sup>43</sup>

37. In June 2018, the DOE recommended improvements to PREPA’s maintenance programs. One was for PREPA to increase the number of maintenance employees, and to decrease the number of administrative employees. As the DOE noted, “To the extent necessary, PREPA should identify skills gaps within its technical and engineering staffs, and identify whether other groups (such as Administrative and General) are right-sized to forecasted sales and engineering needs.”<sup>44</sup>

38. As just one example of the importance of improved maintenance, the DOE found that Hurricane Maria’s damage would have been mitigated if PREPA had simply employed maintenance workers to trim trees. “The DOE assesses[d] that enhanced vegetation management would have been a decisive factor limiting the extent of the damage to the distribution infrastructure.” And, “DOE recommend[ed] that PREPA follow industry best practices for a comprehensive vegetation management program to protect the integrity of their distribution assets, particularly during extreme weather events.”<sup>45</sup> And, “Furthermore, DOE recommend[ed] implementing a compliance driven vegetation management program to remove encroachment of taller vegetation and danger trees from the rights-of-way.”<sup>46</sup> These findings by the DOE demonstrate PREPA’s failure to follow maintenance best practices, which could have mitigated storm damage.

39. PREPA failed to properly plan for the aging of its workforce. The aging of the utilities industry workforce is a known nationwide phenomenon. For example, a 2013 article estimated that

---

<sup>42</sup> CEPR-AP-2015-0001, “Final Resolution and Order,” Puerto Rico Energy Commission, January 10, 2017, p. 20.

<sup>43</sup> AlixPartners, “AlixPartners’ Hand-over Strategy Presentation to the Governing Board,” February 1, 2017, p. 37, available at [https://www.aeepr.com/jg/docs/PREPA\\_Exit%20Strategy%2002-01-2017%20final.pdf](https://www.aeepr.com/jg/docs/PREPA_Exit%20Strategy%2002-01-2017%20final.pdf).

<sup>44</sup> United States Department of Energy, “Energy Resilience Solutions for the Puerto Rico Grid – Final Report,” June 2018, pp. 33-34.

<sup>45</sup> United States Department of Energy, “Energy Resilience Solutions for the Puerto Rico Grid – Final Report,” June 2018, p. 21.

<sup>46</sup> United States Department of Energy, “Energy Resilience Solutions for the Puerto Rico Grid – Final Report,” June 2018, p. 20.

more than 50 percent of utility workers in “critical positions” would retire by 2020 and suggested strategies that utility management could employ to facilitate transitions driven by worker retirements.<sup>47</sup> These strategies included, among others: integrating workforce planning with the company’s strategic plan; ensuring that knowledge transfer occurred; and development of policies to keep experienced workers employed longer.<sup>48</sup>

40. Whereas PREPA appears to have been unprepared for the retirements among its aging workforce, other utilities anticipated and planned for the exact same eventuality. For example, Con Edison indicated that it would target filling managerial-level positions with at least 75 percent of employees on succession plans.<sup>49</sup> Similarly, the Long Island Power Authority (“LIPA”) planned for workforce succession by developing a profile of its employees’ skill sets, offering enhanced training and development opportunities, and implementing on-boarding programs for new employees.<sup>50</sup> Based on the substantial loss of experienced employees recently observed at PREPA, it does not appear that PREPA effectively employs such strategies.

41. PREPA’s mismanagement has extended to its worker safety record. PREC has characterized PREPA’s worker safety record as “unacceptable.”<sup>51</sup> PREPA retained DuPont to perform a worker safety analysis. DuPont uses a grading system from zero to five, with “5-World Class” as the best, and the most basic level denoted as “1-Fundamentals.” PREPA performed below or at the “1-Fundamentals” level of performance in each of twelve safety categories.<sup>52</sup> In the past 10

---

<sup>47</sup> Tina Krebs and Laura Campbell, “Utility Talent Struggles: What should You focus on First?” ScottMadden, Inc., pp. 2-3, *available at* <http://www.scottmadden.com/wp-content/uploads/userFiles/misc/199f13caa5840b3e8cfba4764594d34d.pdf>.

<sup>48</sup> Tina Krebs and Laura Campbell, “Utility Talent Struggles: What should You focus on First?” ScottMadden, Inc., p. 1.

<sup>49</sup> “Final Report: Management Audit of Consolidated Edison Company of New York, Inc.” June 16, 2009, page VI- 16, *available at* <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B825DC52B-0B74-4642-B494-BC9E96767F9D%7D>.

<sup>50</sup> Thomas Falcone, “Board Report on Accomplishment of LIPA’s Staff Goals for 2017,” Long Island Power Authority, January 24, 2018, *available at* <https://www.lipower.org/wp-content/uploads/2018/06/2017-Annual-Goals-Report.pdf>.

<sup>51</sup> “Final Resolution and Order,” In Re: Puerto Rico Electric Power Authority Rate Review Case No. CEPR-AP-2015-0001, January 10, 2017, p. 163.

<sup>52</sup> PREPA, “PREPA’s Transformation: A Path to Sustainability,” June 1, 2015, p. 8, *available at* <http://www.gdb.pr.gov/documents/PREPARecoveryPlan6-1-15.pdf>.

years, PREPA “has had 15 fatalities and approximately 14,000 safety incidents”—a rate that is more than double its industry peers.<sup>53</sup> PREPA’s April 28, 2017 fiscal plan characterized its safety record as “dramatically below industry standards.”<sup>54</sup>

42. PREPA’s management of its human resources contributed to its maintenance failures. The maintenance failures, as described above, in turn contributed to the severity of the hurricane damage.

### **C. PREPA Mismanages Its Customer Service and Theft Prevention**

43. PREPA has poor customer service that adversely impacts its operations. PREPA’s poor record of serving customer accounts also likely contributed to its high rate of customer theft.

44. PREPA has mismanaged its customer service functions, a fact that has been identified since at least 2015, when a management presentation deemed PREPA’s customer service “disorganized and ineffective.”<sup>55</sup> At the time, its dropped call rate was 50 percent, and its average wait time was 20 minutes. As a result, FTI recommended specific steps that PREPA could take to improve its customer service. Those steps included:<sup>56</sup>

- 1) Re-engineering its call center and considering outsourcing the service;
- 2) Capturing customer feedback regarding non-payment;
- 3) Launching a communications campaign regarding potential service changes; and
- 4) Measuring customer satisfaction.

---

<sup>53</sup> Direct Testimony of Lisa Donahue, Managing Director, AlixPartners, LLP and Chief Restructuring Officer, Puerto Rico Electric Power Authority on behalf of the Puerto Rico Electric Power Authority, May 27, 2016, p. 26.

<sup>54</sup> PREPA, “Fiscal Plan,” April 28, 2017, *available at* <http://www.aafaf.pr.gov/spanish/assets/fiscal-plan---pr-electric-power-authority.pdf>.

<sup>55</sup> PREPA, “PREPA’s Transformation: A Path to Sustainability,” June 1, 2015, p. 20.

<sup>56</sup> FTI Capital Advisors, “Accounts Receivable and CILT Report,” November 15, 2014, p. 30.



45. In September 2014, PREPA appointed a Chief Restructuring Officer, Lisa Donahue, in order to help PREPA achieve fiscal stability, and “will join the leadership team in reviewing all of PREPA’s business processes to address its current challenges.”<sup>57</sup> Customer service improved during her tenure. For example, customer service wait times were reduced from 22 minutes to 12 minutes.<sup>58</sup> However, these improvements appear to have been eroded since PREPA decided to discontinue Lisa Donahue’s retention. PREPA’s customer service continues to be characterized as “disorganized and ineffective.”<sup>59</sup>

46. PREPA also has a high rate of customer theft. In 2015, PREPA acknowledged that it “regularly experiences significantly higher non-technical losses than other utilities due primarily to poor monitoring and metering standards.”<sup>60</sup> The rate of theft has increased over time. For example, an estimated 8 percent of power was stolen in 2010.<sup>61</sup> PREPA recently estimated the theft rate at 17.3 percent, which is “higher than [the] industry average.”<sup>62</sup>

47. Other evidence suggests that the theft rate could be even higher. For example, in 2012, PREPA performed 20,000 customer site visits as part of an investigation, and found about 5,300 cases of theft.<sup>63</sup> In 2016, a PREPA customer service representative estimated that 30 percent of customers committed theft.<sup>64</sup>

---

<sup>57</sup> PREPA, “PREPA Appoints Lisa J. Donahue as Chief Restructuring Officer to Expedite Financial and Operational Improvements,” September 4, 2014.

<sup>58</sup> AlixPartners, “AlixPartners’ Hand-over Strategy Presentation to the Governing Board,” February 1, 2017.

<sup>59</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 20.

<sup>60</sup> PREPA, “PREPA’s Transformation: A Path to Sustainability,” June 1, 2015., p. 8.

<sup>61</sup> Standard & Poor’s, “Global Credit Portal: Puerto Rico Electric Power Authority; Retail Electric,” March 26, 2012, available at [http://www.gdb.pr.gov/investors\\_resources/documents/2012-08-24-SPPREPAFullReport.pdf](http://www.gdb.pr.gov/investors_resources/documents/2012-08-24-SPPREPAFullReport.pdf).

<sup>62</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 20.

<sup>63</sup> “La AEE detecta más de 5,000 casos de hurto de luz,” *La Primera Hora*, January 23, 2012, available at <http://www.primerahora.com/noticias/gobierno-politica/nota/laeedetectamasde5000casosdehurtodeluz-605173/>.

<sup>64</sup> “AEE interviene con hurto de electricidad e instala contadores nuevos,” *El Vocero de Puerto Rico*, May 13, 2016, available at [https://www.elvocero.com/gobierno/agencias/ae-interviene-con-hurto-de-electricidad-e-instala-contadores-nuevos/article\\_36213afd-40ad-5757-9237-cb78decbed66.html](https://www.elvocero.com/gobierno/agencias/ae-interviene-con-hurto-de-electricidad-e-instala-contadores-nuevos/article_36213afd-40ad-5757-9237-cb78decbed66.html).

#### **D. PREPA Mismanages Its Collection Practices**

48. PREPA has stated that these customer service issues lead to “slow collections,”<sup>65</sup> which in turn leads to high accounts receivable balances. PREPA has apparently failed to implement policies to address its high accounts receivable balances.

49. PREPA did not report delinquent accounts to a credit agency after 2012. In 2013, PREPA ceased efforts to collect on inactive accounts.<sup>66</sup> According to AlixPartners’ 2017 recommendations, PREPA did not, and apparently still does not, pursue collection mechanisms for “severely past due accounts.”<sup>67</sup> In February 2018, PREPA’s management also described an ineffective collection process.<sup>68</sup>

50. In 2014, FTI recommended a series of concrete steps that PREPA could implement within zero to eight months to improve its accounts receivable balance. These proposed steps included:<sup>69</sup>

- 1) Improve customer service - call center and other services;
- 2) Phone call reminders for secondary accounts;
- 3) Immediately investigate all meters with no billing;
- 4) Implement program with collections agency;
- 5) Increase data analysis of customer behavior;

---

<sup>65</sup> PREPA, “PREPA’s Transformation: A Path to Sustainability,” June 1, 2015.

<sup>66</sup> FTI Capital Advisors, “Accounts Receivable and CILT Report,” November 15, 2014, p. 29.

<sup>67</sup> AlixPartners, “AlixPartners’ Hand-over Strategy Presentation to the Governing Board,” February 1, 2017, p. 12.

<sup>68</sup> “Declaration of Todd W. Filsinger in Support of Urgent Joint Motion of the Financial Oversight and Management Board for Puerto Rico and the Puerto Rico Fiscal Agency and Financial Advisory Authority for Entry of Interim and Final Orders (A) Authorizing Post-petition Secured Financing, (B) Granting Priming Liens and Providing Superpriority Administrative Expense Claims, (C) Modifying the Automatic Stay, (D) Scheduling a Final Hearing, and (E) Granting Related Relief,” p. 7, *In re Fin. Oversight & Mgmt. Bd. for Puerto Rico*, No. 17 BK 3283-LTS (D.P.R. Jan. 27, 2018).

<sup>69</sup> FTI Capital Advisors, “Accounts Receivable and CILT Report,” November 15, 2014, pp. 29-31.

- 6) Reduce estimated meter reads;
- 7) Report delinquent accounts to credit bureaus;
- 8) Implement credit checks for all accounts;
- 9) Automate and improve shutoff processes; and
- 10) Revise all collections policies and procedures.

51. Because of a well-documented lack of transparency and improper recordkeeping by PREPA, it is difficult to assess PREPA's efforts (if any) to implement and sustain these proposed steps. However, in July 2017, PREPA stopped reporting the number of service cancellations it executed, and PREPA has not resumed reporting of this statistic.<sup>70</sup>

52. PREPA has also mismanaged collections for its governmental accounts receivable, which have reached abnormally high levels. This pattern of non-payment by governmental customers was effectively a subsidy.<sup>71</sup> PREPA did not take advantage of its ability to resolve disputes through the Commission to Resolve Debt.<sup>72</sup>

53. CILT (Contribution In Lieu of Taxes) is a form of offset that provides municipalities electricity to offset the fact that PREPA does not pay cash taxes to Puerto Rico's municipalities. However, when the amount of electricity that the municipality uses exceeds the value of the tax offset, then the municipality owes PREPA the difference. PREPA has issued invoices for such balances, but makes no further attempts to collect on those accounts. Municipalities have taken advantage of the CILT system to operate for-profit, electricity-intensive businesses, without paying

---

<sup>70</sup> PREPA, Monthly Operating Reports.

<sup>71</sup> FTI Capital Advisors, "Accounts Receivable and CILT Report," November 15, 2014, pp. 16-17.

<sup>72</sup> PREPA has the ability to present claims against other public corporations through the Commission to Resolve Public Debt. As of November 2014, it had only used this power once. FTI Capital Advisors, "Accounts Receivable and CILT Report," November 15, 2014, p. 71.

the electric bills.<sup>73</sup> An example of this was the municipal ice rink in Aguadilla, highlighted in a New York Times article describing the dysfunctional relationship between PREPA and the state and local governments of Puerto Rico.<sup>74</sup> Fitch Rating Service considered the CILT system in Puerto Rico as tantamount to an operating expense for PREPA.<sup>75</sup>

54. As demonstrated in Exhibit 5 below, PREPA's accounts receivable from governmental accounts has increased since the end of 2017. As of June 2018, PREPA had \$2.6 billion in governmental accounts receivable, net of allowance for purportedly uncollectible accounts.<sup>76</sup> Overall, PREPA's net accounts receivable balance was \$3.4 billion as of June 2018. This amount does not include PREPA's \$1.6 billion allowance for uncollectible accounts.

---

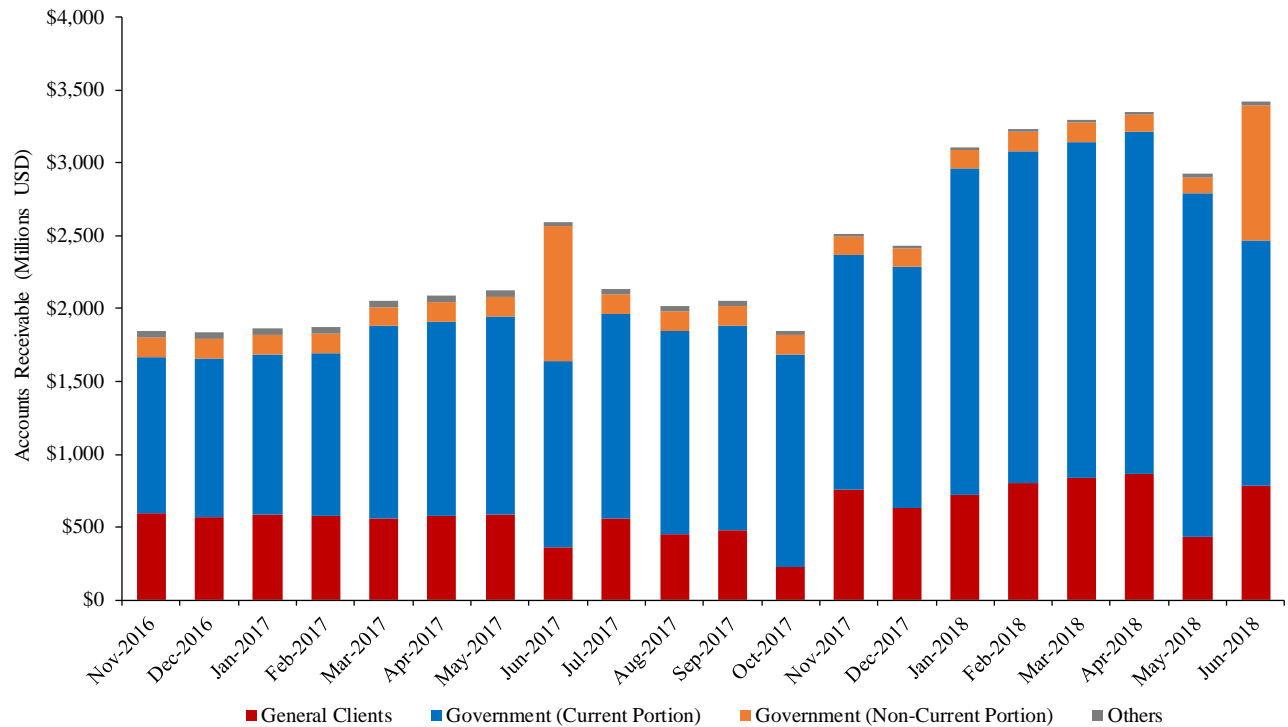
<sup>73</sup> FTI Capital Advisors, "Accounts Receivable and CILT Report," November 15, 2014, p. 20.

<sup>74</sup> Mary Williams Walsh, "How Free Electricity Helped Dig \$9 Billion Hole in Puerto Rico," *The New York Times*, February 1, 2016, available at <https://www.nytimes.com/2016/02/02/business/dealbook/puerto-rico-power-authority-debt-is-rooted-in-free-electricity.html>. The same article discussed how the town of Aguadilla also owns and operates 19 city-owned restaurants, a city-owned hotel, a water park billed as biggest in the Caribbean, a minor-league baseball stadium.

<sup>75</sup> "Puerto Rico Electric Power Authority Power Revenue Bonds - New Issue Report," *Fitch Ratings*, dated April 4, 2012, p. 7.

<sup>76</sup> PREPA, "Monthly Report to the Governing Board," June 2018, p. 21.

Exhibit 5. *PREPA Net Accounts Receivable Balance*



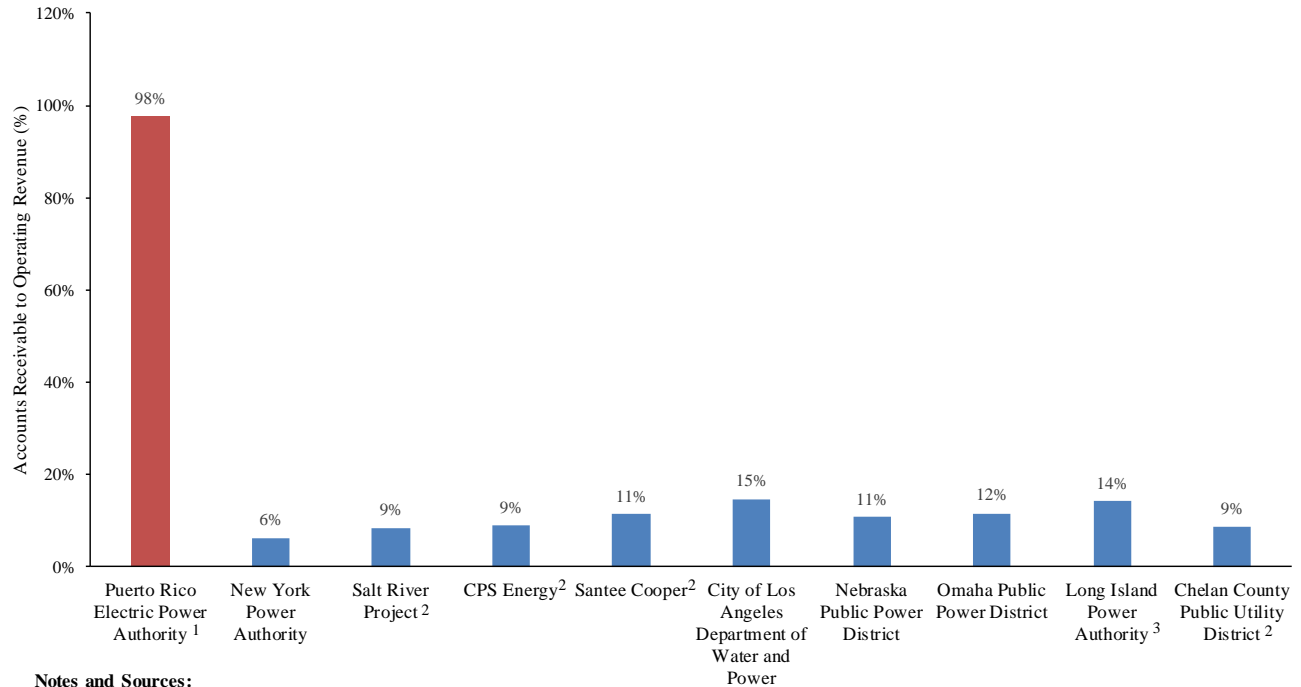
**Notes and Sources:**

- Data are from PREPA Monthly Reports to the Governing Board.
- PREPA adjusted government accounts receivable for June 2017 and June 2018 to include municipalities accounts.
- "Others" include claims receivable from insurance companies, net advances to irrigation systems, accrued interest, and other accounts receivable.

55. Overall, PREPA's accounts receivable (as a percentage of revenue) far exceed its self-identified peer group of companies. As set forth in Exhibit 6 below, I compared PREPA's accounts receivable balance as a percentage of revenues to the largest publicly-owned utilities, measured by megawatt hours.<sup>77</sup> PREPA's most recent publicly available accounts receivable balance almost equaled 100 percent of its annual revenue prior to Hurricane Maria. For other large publicly-owned utilities, total accounts receivable equals between 6 and 15 percent of revenue. In other words, as depicted in Exhibit 6 below, PREPA's accounts receivable level is many multiples of industry norms.

<sup>77</sup> "Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018," p. 22. The PREPA presentation mistakenly lists Salt River Project (as both SRP and Salt-River) and omitted CPS Energy.

Exhibit 6. *PREPA's Total Net Accounts Receivable Compared to Large Publicly-Owned Utilities*



**Notes and Sources:**

<sup>1</sup> Accounts receivable for PREPA are as of June 2018 due to reporting changes in the monthly report and twelve-months revenue for PREPA are as of August 2017 as a measure of pre-hurricane revenue. Accounts receivable and twelve-months revenue for all other companies are pre-hurricane.

<sup>2</sup> The company reports accounts receivable and/or revenue of their electric business together with other operations, including water or gas. Therefore, we calculate accounts receivable and revenue of the entire business.

<sup>3</sup> The company only operates in transmission and distribution of electric service.

- Financial statements and annual reports of the companies.

- PREPA, "Monthly Report to the Governing Board August 2017."

- PREPA, "Monthly Report to the Governing Board June 2018."

56. Reinforcing the continuing nature of the problem, PREPA lists "increasing collections" as a goal in its Current Fiscal Plan.<sup>78</sup>

### **E. PREPA Mismanages Its Budgeting, Financial Controls, Accounting, and Recordkeeping**

57. PREC has concluded that PREPA suffers from an "absence of reliable cost and budget information."<sup>79</sup> For example, PREPA was unable to fulfill several of PREC's information requests

<sup>78</sup> "Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018," p. 79.

<sup>79</sup> CEPR-AP-2015-0001, "Final Resolution and Order," Puerto Rico Energy Commission, January 10, 2017, paragraph 50.

regarding capital projects spending, hurricane costs and revenue allocation and rate design.<sup>80</sup> PREC has also noted its concern with PREPA's "input assumptions and key methodologies to be used for the development of the Integrated Resource Plan"<sup>81</sup> ("IRP"). Integrated resource planning is used in the electric utility industry for long-term planning and is a roadmap (over 15-20 years) for meeting the utility's objective of providing reliable and least-cost electric service to its customers while considering the uncertainties inherent in electric utility business planning. Inputs include forecasts of electricity demand, forecasts of fuel prices, and the capital, variable operating costs, and performance parameters of various generation options including conventional sources (*e.g.*, natural gas) and renewable options (*e.g.*, wind and solar). As such, an inability to provide information needed for the IRP process is problematic for PREPA's long-term future.

58. In practice, PREPA has generally allocated its departments the lower of that department's historic budget or its actual spending. This irregular approach to budgeting encourages each department to fully spend its annual budget (rather than seek cost savings), or else face budget cuts.<sup>82</sup>

59. Beyond deficient budgeting, PREPA has failed at basic recordkeeping. Many of PREPA's financial records were not part of a centralized recordkeeping plan. As PREC has recognized, "PREPA does not have electronic systems configured to be able to assess automatically which work orders are associated with a particular [capital expenditure] project; most of this information is on paper records. And those paper records are not organized by project in a central location."<sup>83</sup>

60. Similarly, PREPA has failed to produce audited financial results in a timely manner. The most recent audited results are from Fiscal Year 2015 (ended June 30, 2015)—they were finally completed in 2018.

---

<sup>80</sup> Puerto Rico Energy Commission, "Resolution and Order Establishing Calendar for Submission of Information," CEPR-AP-2018-0002, June 22, 2018.

<sup>81</sup> Resolution and Order, Case No. CEPR-AP-2018-0001, Dkt. No. 8, at p.1, (Aug. 8, 2018.)

<sup>82</sup> CEPR-AP-2015-0001, "Final Resolution and Order," Puerto Rico Energy Commission, January 10, 2017, p. 63.

<sup>83</sup> CEPR-AP-2015-0001, "Final Resolution and Order," Puerto Rico Energy Commission, January 10, 2017, p. 24.

61. Appropriate budgeting and recordkeeping are essential requirements of a fiscally sound utility. A typical utility would employ the systems and practices that enable it to accurately and routinely track its budgets, financial performance, and project expenses. The absence of these functions further exacerbates the inability of PREPA to manage itself.

#### **F. PREPA Mismanages Its Procurement and Contract Negotiations**

62. PREPA's mismanagement extends to its procurement and contracting procedures as well. Given the magnitude of these errors, it is unlikely that PREPA, as currently managed, will be able to correct them going forward.

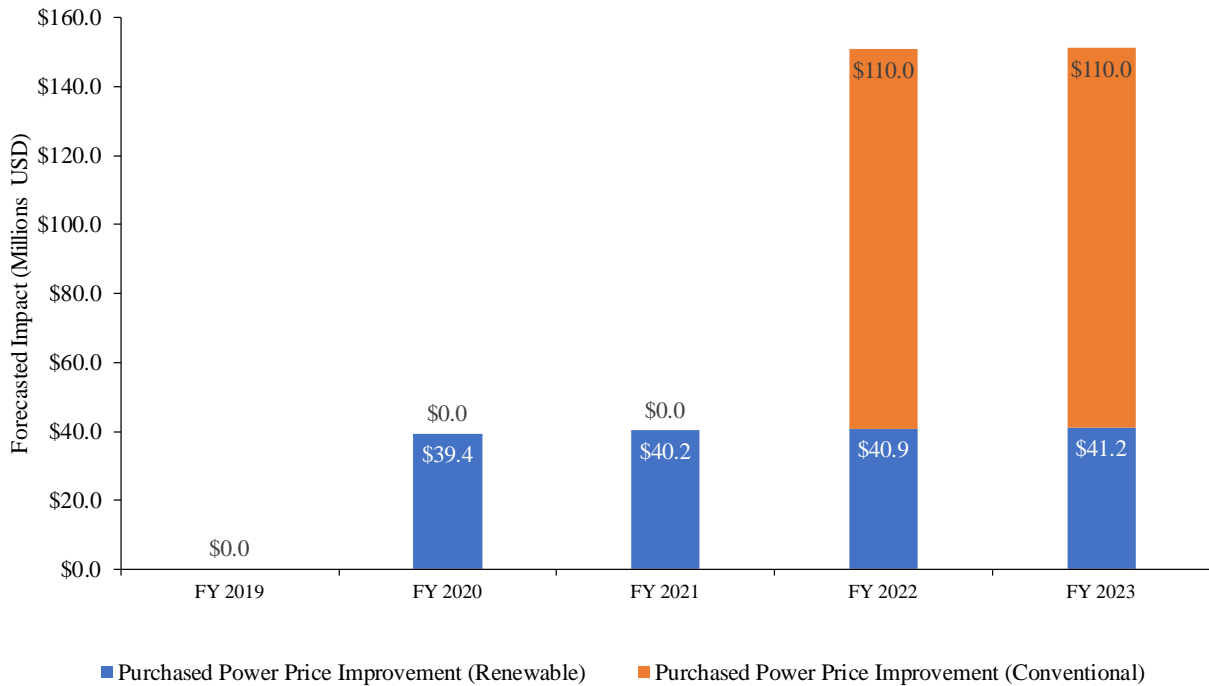
63. Specifically, the Current Fiscal Plan contains estimated cost savings for renegotiating PREPA's contracts for renewable purchased power, conventional purchased power, and fuel procurement to the tune of \$150 million per year just from renegotiating the renewable and conventional power contracts, with unspecified additional savings expected from the fuel procurement contract.<sup>84</sup> Exhibit 7 below demonstrates the cost savings estimates from the Current Fiscal Plan. These savings are more likely to be realized under independent, professional management, rather than the same management that created these problems.

---

<sup>84</sup> According to the 2018 Current Fiscal Plan (at p. 115), PREPA aims to achieve cost savings through renegotiating renewable purchased power contracts and conventional purchased power contracts (PPOAs) for cost savings. PREPA also aims to deliver savings through renegotiating fuel supply contracts through best-practice procurement strategy. PREPA does not report forecasted impact from price improvement in fuel procurement contracts.



Exhibit 7. *Estimated Future Cost Savings from Correcting PREPA's Contracting Errors*



**Notes and Sources:**

- PREPA, "Puerto Rico Electric Power Authority: Fiscal Plan," August 1, 2018.

64. In 2016, the Senate of Puerto Rico investigated and found that PREPA had paid for high-quality oil, yet received low-quality oil.<sup>85</sup> The Senate also found that PREPA knowingly entered into oil supply contracts with companies that had pled guilty to participating in fraudulent schemes elsewhere.<sup>86</sup> The Senate investigated the scheme from 2008-2014, but the scheme may go back much further.<sup>87</sup>

<sup>85</sup> Tom Sanzillo and Cathy Kunkel, "Multibillion-Dollar Oil Scandal Goes Unaddressed in PREPA Contract Reform and Privatization," Institute for Energy Economics and Financial Analysis, July 2018, pp. 2-3, *available at* [http://ieefa.org/wp-content/uploads/2018/07/Multibillion-Dollar-Oil-Scandal-Goes-Unaddressed-in-PREPA-Contract-Reform-and-Privatization-\\_July-2018.pdf](http://ieefa.org/wp-content/uploads/2018/07/Multibillion-Dollar-Oil-Scandal-Goes-Unaddressed-in-PREPA-Contract-Reform-and-Privatization-_July-2018.pdf).

<sup>86</sup> Tom Sanzillo and Cathy Kunkel, "Multibillion-Dollar Oil Scandal Goes Unaddressed in PREPA Contract Reform and Privatization," Institute for Energy Economics and Financial Analysis, July 2018, p. 7.

<sup>87</sup> The fraud could have gone on for as long as 30 years. Tom Sanzillo and Cathy Kunkel, "Multibillion-Dollar Oil Scandal Goes Unaddressed in PREPA Contract Reform and Privatization," Institute for Energy Economics and Financial Analysis, July 2018, p. 2.

#### **IV. PREPA HAS BEEN SUBJECT TO POLITICIZATION, TO THE DETRIMENT OF PREPA AS AN OPERATING ENTITY AND THE CUSTOMERS IT SERVES**

65. PREPA has been, and still is, impaired by politicization. As described below, excess levels of political interference in PREPA have been identified and criticized by outside consultants, PREC, the Kobre & Kim independent investigative report (the “FOMB Investigative Report”), and even by PREPA itself.

66. On January 12, 2016, Ms. Donahue testified before the U.S. House of Representatives and stated that, over decades, “management and other strategic decisions [of PREPA], including staffing and capital investment, were too often based on political or electoral considerations rather than best practices or business imperatives. As a result of this dynamic, PREPA suffered from regular employee reassignments and had difficulty conducting rational long-term planning, which compounded existing challenges.”<sup>88</sup>

67. In December 2016, Governor-elect Rosselló discussed the possibility of terminating Ms. Donahue’s contract.<sup>89</sup> On February 14, 2017, Governor Rosselló questioned the need to continue with Ms. Donahue’s contract.<sup>90</sup> Ms. Donahue’s contract with PREPA expired on February 15, 2017 and was not renewed.

68. This politicization has affected practically every aspect of PREPA’s operations, including the stability of its leadership from its Executive Director and Board of Directors, its other

---

<sup>88</sup> Lisa J. Donahue, “Exploring Energy Challenges and Opportunities Facing Puerto Rico,” Statement of Lisa J. Donahue, Chief Restructuring Officer Puerto Rico Electric Power Authority, Before the Committee on Natural Resources Subcommittee on Energy and Mineral Resources, U.S House of Representatives, January 12, 2016, available at [https://naturalresources.house.gov/uploadedfiles/testimony\\_donahue.pdf](https://naturalresources.house.gov/uploadedfiles/testimony_donahue.pdf).

<sup>89</sup> “Rosselló Looks to Cut Donahue Contract, Says PREPA Deal Being Reviewed ‘Holistically,’” Reorg Research, December 19, 2016.

<sup>90</sup> Puerto Rico: Rosselló Says Energy Reform Will Bring Down Costs, defends PREPA Board Shakeup,” Reorg Research, February 14, 2017.

management and staffing decisions, and its ability to execute a consistent operational strategy. This politicization continues to the present.

### **A. Executive-Level Politicization**

69. PREPA suffers from a high level of turnover at the executive director and chief executive level, resulting in an inability to set strategic direction or execute long-term projects. Over the last eleven years, PREPA has had fourteen different Executive Directors.<sup>91</sup> For instance, Governor Rosselló took office on January 2, 2017. Following this, both the Executive Director and six out of nine members of the Board of Directors changed (in some cases repeatedly). Similar problems continue to this day, as borne out by the recent turmoil in PREPA's leadership. PREPA has had five different Executive Directors in the last year. In July 2018, after an ultimatum by Governor Rosselló that they must resign if they would not follow his instruction, most of the Board of Directors resigned in protest over continued political interference.<sup>92</sup>

70. Exhibit 8, below, lists the Executive Directors at PREPA since 2007.

---

<sup>91</sup> The fourteen Executive Directors includes Rafael Diaz-Granados, who was named as a replacement for Walter Higgins, but resigned after one day.

<sup>92</sup> Andrew Scurria, "Puerto Rico Utility Directors Resign, Alleging Political Interference," *Wall Street Journal*, July 12, 2018.

Exhibit 8. *Executive Directors of PREPA, 2007-2018.*

No.	Start Date	End Date	Length of Tenure	Name
			(Days)	
(1)	(2)	(3)	(4)	(5)
1.	7/23/2018	n/a	n/a	José Ortiz
2.	7/11/2018	7/12/2018	1	Rafael Diaz-Granados <sup>1</sup>
3.	3/20/2018	7/23/2018	125	Walter Higgins
4.	11/17/2017	3/20/2018	123	Justo Gonzalez
5.	3/3/2017	11/17/2017	259	Ricardo Ramos
6.	8/3/2015	3/3/2017	578	Javier Quintana
7.	6/23/2015	8/3/2015	41	Carlos Castro
8.	2/1/2013	6/23/2015	872	Juan Alicea Flores
9.	6/29/2012	2/1/2013	217	Josué A. Colón Ortiz
10.	10/3/2011	6/29/2012	270	Otoniel Cruz Carillo
11.	9/30/2011	10/3/2011	3	Alberto Escudero
12.	1/13/2009	9/30/2011	990	Miguel Cordero Lopez
13.	11/30/2008	1/13/2009	44	Juan Alicea Flores
14.	1/16/2007	11/30/2008	684	Jorge A. Rodriguez Ruiz

**Notes and Sources:**

<sup>1</sup> On July 11, 2018, Walter Higgins resigned his position effective on July 14. Rafael Diaz-Granados was named Executive Director to succeed Higgins, effective July 15, 2018, but resigned on July 12, 2018 before the end of Higgins' term. On July 13, 2018, Higgins agreed to remain on the position until July 23, 2018.

71. This unusually high level of turnover necessarily impacted the ability of PREPA to engage in consistent and structured planning.

## **B. The Politicization of Management**

72. Besides the executive-level turnover, for at least the past twenty years, after each election (if not more frequently), the new governor replaced not only the PREPA Board of Directors, but also the management of PREPA. The sitting governor of Puerto Rico has not been re-elected since 1996, effectively resulting in top-level turnover every four years.

73. The political appointments, known as *empleados de confianza* (trust employees), did not just affect the top executive positions, but also reached deep into PREPA's management structure. For instance, political appointments affect technical positions, such as engineers.<sup>93</sup>

74. To my knowledge, PREPA has not publicly disclosed the exact number of political appointees, but the number has been estimated to be between 150 and 300.<sup>94</sup> This is many multiples of the normal threshold for trust employees established by Commonwealth law.<sup>95</sup> Further, political appointments are often made without regard to skills or experience.<sup>96</sup> Instead, the new governor would make appointments based on political affiliation rather than job qualifications.

75. These political appointments have resulted in "massive turnover, loss of institutional knowledge, and decision-making that was unresponsive to market forces."<sup>97</sup> Some of these trust employees would switch to career positions following an unfavorable election. Work requirements in many of these positions were minimal or nonexistent.<sup>98</sup>

76. PREPA suffers from an "inefficient bureaucracy with absenteeism, [and is] overly staffed with non-value-added administrative personnel."<sup>99</sup> PREPA's administration and general ("A&G") expenses have been particularly excessive, with PREC concluding that "PREPA's spending

---

<sup>93</sup> Kobre & Kim LLP, "Final Investigative Report," The Financial Oversight & Management Board for Puerto Rico, August 20, 2018, p.117, *available at* [https://media.noticel.com/o2com-noti-media-us-east-1/document\\_dev/2018/08/20/Informe%20de%20Kobre%20Kim%20sobre%20la%20deuda%20de%20PR\\_1534811503036\\_12865995\\_ver1.0.pdf](https://media.noticel.com/o2com-noti-media-us-east-1/document_dev/2018/08/20/Informe%20de%20Kobre%20Kim%20sobre%20la%20deuda%20de%20PR_1534811503036_12865995_ver1.0.pdf).

<sup>94</sup> Kobre & Kim LLP, "Final Investigative Report," The Financial Oversight & Management Board for Puerto Rico, August 20, 2018, p.117.

<sup>95</sup> Act No. 8-2017, Approved February 4, 2017, p. 63, *available at* <http://www.oslpr.org/download/en/2017/A-008-2017.pdf>.

<sup>96</sup> *See*, Lisa Donahue, "Public Hearing on the Puerto Rico Electric Power Authority Business Plan and Recovery Plan." Testimony before the Energy Affairs and Water Resources Commission, April 14, 2015; CEPR-AP-2015-0001, "Final Resolution and Order," Puerto Rico Energy Commission, January 10, 2017, p.52.

<sup>97</sup> Kobre & Kim LLP, "Final Investigative Report," The Financial Oversight & Management Board for Puerto Rico, August 20, 2018, p.113.

<sup>98</sup> Kobre & Kim LLP, "Final Investigative Report," The Financial Oversight & Management Board for Puerto Rico, August 20, 2018, p. 113.

<sup>99</sup> Final Resolution and Order," In Re: Puerto Rico Electric Power Authority Rate Review Case No. CEPR-AP-2015-0001, January 10, 2017, p. 3.

last year on miscellaneous A&G related expenses was more than its entire proposed budget for generation expenses in FY2017.”<sup>100</sup>

77. PREPA’s Current Fiscal Plan, which was certified by the FOMB on August 1, 2018, also estimates that PREPA can save approximately \$53 million to \$85 million per year by restructuring its workforce, further indicating that PREPA is overstaffed. PREPA believes that the largest savings opportunity is with respect to its “administrative staff.”<sup>101</sup>

78. Also as a result of politicization, PREPA’s work culture has been characterized in the press as a “kleptocracy.”<sup>102</sup> PREPA’s management suffers from “low accountability and a lack of leadership from top management.”<sup>103</sup> For example, in February 2017, AlixPartners, which provided consulting support to Lisa Donahue’s restructuring efforts, concluded that PREPA needed work culture transformations in the areas of safety, performance monitoring, project management, and maintenance.<sup>104</sup>

### **C. Lack of Strategic Direction and Inability to Set Priorities**

79. Because of political interference and leadership instability, “PREPA’s long term planning was distorted by political considerations, resulting in operational instability, expensive changes in direction and delays in and stoppages of necessary infrastructure projects.”<sup>105</sup>

80. One example of the effect of political intervention in the capital investment policies of Puerto Rico is the *Gasoducto del Sur* project. Governor Acevedo Vilá proposed the *Gasoducto del Sur* project in 2005, which was to be a 49-mile-long natural gas pipeline running from the private

---

<sup>100</sup> “Final Resolution and Order,” In Re: Puerto Rico Electric Power Authority Rate Review Case No. CEPR-AP-2015-0001, January 10, 2017, p. 163.

<sup>101</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 50.

<sup>102</sup> Philippe Schoene Roura, “Lessons Learned? Prepa Overhaul in Times of Maria,” Caribbean Business, September 20, 2018, *available at* <https://caribbeanbusiness.com/lessons-learned-prepa-overhaul-in-times-of-maria/>.

<sup>103</sup> CEPR-AP-2015-0001, “Final Resolution and Order,” Puerto Rico Energy Commission, January 10, 2017, p. 52.

<sup>104</sup> AlixPartners, “AlixPartners’ Hand-over Strategy Presentation to the Governing Board,” February 1, 2017, pp. 10, 18, 35, 37, 47.

<sup>105</sup> CEPR-AP-2015-0001, “Final Resolution and Order,” Puerto Rico Energy Commission, January 10, 2017, p.22.

EcoEléctrica facility in Peñuelas to the Aguirre Combined Cycle Plant in Salinas, at an estimated cost of \$74 million.<sup>106</sup> After \$55 million was spent developing this project, construction was stopped in 2009 by the next governor, Governor Fortuño.<sup>107</sup> The project was ultimately cancelled in 2012 and left “unbuilt.”<sup>108</sup> Governor Fortuño then proposed the *Gasoducto del Norte* pipeline project, which was to be a 92-mile-long underground natural gas pipeline from northern to southern Puerto Rico.<sup>109</sup> That project was opposed by the U.S. EPA, the U.S. Fish and Wildlife Service, members of Congress, and various environmental groups. It was withdrawn in 2012.<sup>110</sup> These are just examples of PREPA’s difficulty planning and completing large, capital-intensive projects, because of changing political views and leadership, resulting in wasteful deployment of capital.

81. According to consultants hired by PREC, “PREPA’s capital budget is poorly-supported and -documented ... PREPA’s prioritization of capital projects has historically been misguided.”<sup>111</sup> Similarly, the FOMB Investigative Report found that management turnover created a lack of institutional knowledge and a lack of continuity in capital improvement projects, as well as the delay or cancellation of maintenance and capital improvement projects initiated by the management team.<sup>112</sup>

82. As discussed further below, the Current Fiscal Plan contemplates numerous short and long-term projects. Part of the proper management of any utility is the ability to plan and execute long-term projects. This requires strategic continuity from executive leadership, and competency in

---

<sup>106</sup> Kobre & Kim LLP, “The Financial Oversight & Management Board for Puerto Rico – Independent Investigator: Final Investigative Report,” August 20, 2018, pp. 127-128.

<sup>107</sup> Kobre & Kim LLP, “The Financial Oversight & Management Board for Puerto Rico – Independent Investigator: Final Investigative Report,” August 20, 2018, pp. 127-128.

<sup>108</sup> Kobre & Kim LLP, “The Financial Oversight & Management Board for Puerto Rico – Independent Investigator: Final Investigative Report,” August 20, 2018, pp. 127-128.

<sup>109</sup> Kobre & Kim LLP, “The Financial Oversight & Management Board for Puerto Rico – Independent Investigator: Final Investigative Report,” August 20, 2018, pp. 127-128.

<sup>110</sup> Kobre & Kim LLP, “The Financial Oversight & Management Board for Puerto Rico – Independent Investigator: Final Investigative Report,” August 20, 2018, pp. 128-129

<sup>111</sup> Expert Report of Jeremy Fisher and Ariel Horowitz, Case Number CEPR-AP-2015-0001, November 23, 2016, p. 65.

<sup>112</sup> Kobre & Kim LLP, “The Financial Oversight & Management Board for Puerto Rico – Independent Investigator: Final Investigative Report,” August 20, 2018, p. 119.

planning, budgeting, monitoring, and enforcing accountability. PREPA management has not demonstrated any of these characteristics.

#### **D. Significant Political Interference Since 2017**

83. In 2014, the legislature of Puerto Rico passed Act 57. The stated purpose of the Act was to address deficiencies in PREPA, such as the fact that “PREPA has become a monopoly that regulates itself; sets its own rates without actual oversight; incurs operational, managerial, and administrative deficiencies whose actual cost, at the end of the day, is borne directly by customers; and whose governance lacks transparency and citizen participation.”<sup>113</sup> To achieve that end, Act 57 created PREC, and endowed it with the power to set rates and “[o]versee the quality and reliability of the electric power services provided by PREPA.”<sup>114</sup> The Act also changed the Governing Board “to assure greater oversight” and created an Auditing Committee.<sup>115</sup>

84. However, recent history suggests that the current government of Puerto Rico intends to exercise continued political influence over PREPA.

85. In 2017, Act 37 restored some of the governor’s political powers to appoint Board members, which powers had been reduced in 2014.<sup>116</sup> When the Act passed, the governor dismissed the existing PREPA Board and replaced them with new appointments.<sup>117</sup>

86. As further evidence of this intent, on July 12, 2018, five out of seven members of the Board of Directors resigned in protest over continued political interference with the management of PREPA. The resignations came one day after the forced resignation of Rafael Diaz-Granados over a dispute regarding the amount of his salary, and immediately after an ultimatum from the governor

---

<sup>113</sup> Puerto Rico Commonwealth Laws Act No. 57, approved May 27, 2014, p. 2.

<sup>114</sup> Puerto Rico Commonwealth Laws Act No. 57, approved May 27, 2014, p. 4.

<sup>115</sup> Puerto Rico Commonwealth Laws Act No. 57, approved May 27, 2014, p. 3.

<sup>116</sup> Kobre & Kim LLP, “Final Investigative Report,” The Financial Oversight & Management Board for Puerto Rico, August 20, 2018, p.117.

<sup>117</sup> Kobre & Kim LLP, “Final Investigative Report,” The Financial Oversight & Management Board for Puerto Rico, August 20, 2018, p.117.



that any board members who would not vote to reduce that salary must resign. The resignations were communicated in a letter to Governor Rosselló. The letter stated that “political forces in Puerto Rico” were continuing to interfere in the operation of PREPA and “want to continue to control PREPA.”<sup>118</sup> The letter added, “when the petty political interests of politicians are put ahead of the needs of the people, the process of transforming the Puerto Rican electricity sector is put at risk.”<sup>119</sup>

87. Resigning PREPA chair Ernesto Sgroi stated, “It will be difficult to carry [PREPA] without a strong board and strong CEO - to effectively run that company separate from government influence - that is the main factor in trying to transform PREPA.”<sup>120</sup>

88. Mr. Diaz Atienza, the current chairman of the Board, is also the Executive President of PRASA, and José Ortiz—appointed by Governor Rosselló as Executive Director of PREPA on July 18, 2018—was CEO of PRASA from 2007 to 2013. PRASA owes millions of dollars to PREPA in outstanding accounts receivable.<sup>121</sup> In addition, it has been reported that PREPA intends to enter into other a transaction with PRASA and eventually transfer assets to it.<sup>122</sup>

89. The FOMB agrees that a de-politicized regulatory process is essential for the successful transformation of PREPA. “The fiscal plan also highlights the need for regulatory reform because a strong, independent, well-funded, professional regulator modeled on best practice regulatory structures employed in the United States is essential to any successful transformation of PREPA.”<sup>123</sup>

---

<sup>118</sup> Andrew Scurria, “Puerto Rico Utility Directors Resign, Alleging Political Interference,” *Wall Street Journal*, July 12, 2018.

<sup>119</sup> July 12, 2018 Resignation Letter from PREPA’s Governing Board to Gov. Ricardo Rosselló Nevares.

<sup>120</sup> Karen Pierog and Jessica Resnick-Ault, “Puerto Rico power utility board quits, leaving leadership void,” Reuters, July 12, 2018, available at <https://www.reuters.com/article/us-usa-puertorico-prepa/puerto-rico-power-utility-board-quits-leaving-leadership-void-idUSKBN1K22QS>.

<sup>121</sup> See, e.g., Second Supplemental Declaration of Todd Filsinger, Dkt. No. 688, at 8 (outstanding accounts receivable balance of \$62.8 million).

<sup>122</sup> Generation plants in Catano and Yabucoa: PREPA seeks to improve supply on the North Coast, EL NUEVO DIA (July 21, 2018, 10:28 AM), <https://www.elnuevodia.com/english/english/nota/generationplantsincatanoandyabucoa-2436661/>

<sup>123</sup> “Annual Report: Fiscal Year 2018,” Federal Oversight and Management Board for Puerto Rico, July 18, 2018, p. 15.

90. Under PREPA's current management, the goals of the fiscal plan may be at risk. For example, the governor's administration announced its opposition to pension reform (one such goal) shortly after the fiscal plan was announced.<sup>124</sup>

91. The legislature of Puerto Rico is continuing to work on legislation regarding the public policy and regulatory framework for PREPA. The draft legislation is a "complex, detailed and technical bill" that is expected to address a wide variety of aspects of PREPA, including "distributed generation, the transition from fossil fuels to renewable energy, microgrids, net metering, wheeling, energy efficiency, grid modernization, resilience and universal access to energy, among others."<sup>125</sup> The number of items yet to be resolved is an additional element of uncertainty. This is a new process for Puerto Rico, and there may be many approvals and regulatory hurdles that lead to a more extended timeline.

92. Members of Congress have expressed concern regarding the ongoing political interference in PREPA's management by the government of Puerto Rico. The Committee Staff Memo to the U.S. House Committee on Natural Resources stated, "Much of PREPA's future depends on the leadership and commitment of the Government of Puerto Rico; and unfortunately, the current government continues to inject political calculations into the management scheme of PREPA. Unless the leadership of PREPA can be divorced from the politics of Puerto Rico, PREPA will continue to be a dysfunctional utility."<sup>126</sup> The memo also stated, "Privatization should be the end goal that will achieve a successful conversion of PREPA; however, substantive structural and cultural reform

---

<sup>124</sup> "Rosselló Pledges to Protect 'Most Vulnerable' in Pension Reform," Reorg Research, February 15, 2017.

<sup>125</sup> "Energy Policy and Regulatory Bill Taking Shape in San Juan as PREPA Looks to Washington," Reorg Research, August 29, 2018.

<sup>126</sup> Committee on Natural Resources, "Oversight Hearing entitled "Management Crisis at the Puerto Rico Electric Power Authority and Implications for Recovery: Hearing Memorandum," Majority Committee Staff, Andrew Vecera, July 23, 2018, p. 1, *available at* [https://naturalresources.house.gov/uploadedfiles/hearing\\_memo\\_-\\_fc\\_ov\\_hrg\\_07.25.18.pdf](https://naturalresources.house.gov/uploadedfiles/hearing_memo_-_fc_ov_hrg_07.25.18.pdf).

within PREPA must occur first.”<sup>127</sup> Both Republicans and Democrats on the Natural Resources Committee expressed support for de-politicizing PREPA.<sup>128</sup>

## **V. PREPA NEEDS INDEPENDENT AND PROFESSIONAL MANAGEMENT**

93. While the goals to transform and improve PREPA have been articulated by its board, there is no plan to accomplish those goals and constructively move PREPA forward from where it is today.

### **A. PREPA Requires a Fundamental Transformation of Its Management Practices before It Can Effectively Transform Its Operations**

94. PREPA plans an extensive change of its operations over the next five to ten years. This will require successfully executing across a wide range of operations, including the effective deployment of capital, stabilizing PREPA’s management, the effective management of its workforce, implementing effective policies and procedures, and creating a culture of accountability. PREPA has not shown the ability to do this within its current politicized management structure. On the contrary, the current management structure has led to the opposite – widespread dysfunction.

95. PREC has stated, “the quadrennial turnover of managers with each new political administration, the political pressures from elected officials to avoid necessary rate increases, the failure of government agencies to pay their electricity bills on time, the irresponsible initiation and termination of expensive capital projects, the high levels of electricity theft, the work rules that prevent efficient use of well-paid employees, the poor record keeping and antiquated administrative procedures, the compensation schemes that prevent PREPA from recruiting and retaining qualified and experienced personnel – all this must come to a halt, to be replaced by a universal commitment to the good of the Commonwealth.”<sup>129</sup>

---

<sup>127</sup> Committee on Natural Resources, “Oversight Hearing entitled “Management Crisis at the Puerto Rico Electric Power Authority and Implications for Recovery: Hearing Memorandum,” Majority Committee Staff, Andrew Vecera, July 23, 2018, p. 1.

<sup>128</sup> “Congressional PREPA Proposal Still a Work in Progress as Delegation Visits Puerto Rico,” *Reorg Research*, July 27, 2018.

<sup>129</sup> CEPR-AP-2015-0001, “Final Resolution and Order,” Puerto Rico Energy Commission, January 10, 2017, p. 23.

96. To become a reliable, well-functioning utility for the people of Puerto Rico, PREPA will require a thorough transformation of its operations, culture, and practices. This can be accomplished with the appointment of an independent, professional receiver, untainted by the politicization and bad practices that affect PREPA.

97. PREPA required a fundamental transformation even prior to Hurricane Maria. In early 2017, PREC recognized the daunting transformational tasks required, many of which I previously discussed in this report: “Many steps lie ahead - -infrastructural, operational administrative, financial and physical – before positive results will be seen and felt by PREPA’s customers. Investments to improve reliability, reduce dependence on fossil fuel, accommodate renewable energy and improve reliability will take years.”<sup>130</sup>

98. After Hurricane Maria, the necessary transformation is even more daunting. PREPA’s management will need to simultaneously address a number of operational and strategic issues, as described below.

99. PREPA’s Current Fiscal Plan outlines the “myriad negotiations and processes that must occur for the successful transformation of PREPA.”<sup>131</sup> The Current Fiscal Plan also seeks to accomplish a number of short-term goals. Many of these short-term goals are expected to yield results in the next year to 18 months. Exhibit 9 presents a list of the short-term goals that PREPA believes it can achieve, along with any identified timeframe for completion.

Exhibit 9. *PREPA’s Short-Term Goals Listed in Its Current Fiscal Plan — See Attached*

100. PREPA will find it difficult to implement these goals until it can manage itself effectively. This includes effectively managing its workforce, to ensure that the right people with the

---

<sup>130</sup> CEPR-AP-2015-0001, “Final Resolution and Order,” Puerto Rico Energy Commission, January 10, 2017, p. 23.

<sup>131</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 2.

right training are in the right positions, and that the right number of employees are allocated to each function.

101. Furthermore, PREPA will need to attract capital investment in order to implement the changes described in the Current Fiscal Plan. Specifically, the Current Fiscal Plan describes \$12 billion in capital investment within five years. PREPA hopes to obtain this funding from a combination of “federal funding, private investment, and rates.”<sup>132</sup> Other long-term goals include:

- 1) Transforming PREPA’s structure through a planned privatization, which requires “overhauling the structure and management of PREPA.” This process will involve privatizing generation, obtaining a private sector concessionaire to manage the grid, and implementing a “robust, independent, well-funded, and expert” regulatory authority.
- 2) PREPA aims to reduce its distribution outage rates to the U.S. mainland median performance by 2023. PREPA will measure its reliability using the ‘SAIFI’ (System Average Interruption Frequency Index) and “SAIDI” (System Average Interruption Duration Index) metrics previously discussed in this report.<sup>133</sup> PREPA has performed substantially worse than the U.S. mainland by these metrics. (See Exhibit 4, above.) Reaching the median performance level would represent a substantial improvement. PREPA’s plan also calls for implementing “a grid modernization plan.”<sup>134</sup>
- 3) At the same time PREPA is performing a “rebuild and modernization” of the grid, PREPA will try to build an “aspirational” cleaner generation fleet.<sup>135</sup> The Current Fiscal Plan outlines an ambitious agenda to increase the percentage of generation by renewable and other cleaner energy sources. The plan envisions spending \$2.9 billion of capital to

---

<sup>132</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 3.

<sup>133</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 42.

<sup>134</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 42.

<sup>135</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 44.

convert existing facilities to natural gas and to build a “renewables-oriented” generation fleet.<sup>136</sup>

- 4) PREPA’s generation facilities have not been compliant with environmental standards, such as the Mercury and Air Toxics Standards (“MATS”) promulgated by the U.S. EPA.<sup>137</sup> The Current Fiscal Plan calls for unspecified “projects to enable MATS compliance alternatives.” It also plans for developing a request for Proposal (“RFP”) for the development of 300-600 MW of renewable generation capacity.<sup>138</sup>

102. The Current Fiscal Plan itself recognizes that successful execution of these long-term goals is subject to a number of risk factors and uncertainties that could delay or even prevent implementation.<sup>139</sup> For instance, there is a “lack of visibility” regarding the availability and terms of federal funding.<sup>140</sup> There is also uncertainty regarding the effects of the recent hurricanes as well as PREPA’s load forecasts.<sup>141</sup> Moreover, these plans will need to be incorporated into an updated Integrated Resource Plan, which will require separate consideration and approval by PREC.<sup>142</sup>

103. PREPA’s plan for solar power generation is an example of the “aspirational” nature of PREPA’s transformation plans. The Current Fiscal Plan calls for 550 MW of renewables to be built before Fiscal Year 2021.<sup>143</sup> The plan also calls for the construction of 300 MW / 1200 MWhr of additional battery storage to be built by Fiscal Year 2023.<sup>144</sup> The largest solar farm currently in

---

<sup>136</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 44.

<sup>137</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 21.

<sup>138</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 30.

<sup>139</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 4.

<sup>140</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 6.

<sup>141</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 6.

<sup>142</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 30.

<sup>143</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 45.

<sup>144</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 45.

operation in the United States is the 579 MW Solar Star facility near Los Angeles, CA.<sup>145</sup> Similarly, the battery plan would match the largest planned facility of its kind, by Pacific, Gas & Electric at its Moss Landing Power Plant site in California (which is not expected to be completed until the end of 2020 and is currently awaiting approval by the California Public Utilities Commissions).<sup>146</sup>

104. These are ambitious and expensive long-range plans. As discussed above, politicization has made it difficult for PREPA's management to successfully deploy capital and otherwise execute such projects. The Current Fiscal Plan acknowledges that, "[h]istorically, PREPA has not efficiently or effectively executed capital projects."<sup>147</sup> Among other things, PREPA's mismanaged recordkeeping will need to be modernized to track the success of this capital spending. Management will also have to be improved to create accountability for how capital is deployed.

105. In addition to having independent executive leadership and management, having a normal, de-politicized relationship between PREPA and its regulator will be essential to the transformation.

106. A recently published study from the Center for American Progress reinforces that "having a strong, independent regulatory commission with the authority to make legally binding requirements on a state's utilities is invaluable for implementing policy goals."<sup>148</sup> It is important that the regulatory commission operate with professionalism, and that political influence is minimized. Some states accomplish this by "staggering the terms of the commissioners, requiring confirmation of appointments by the state legislature, and/or requiring political balance in the composition of the

---

<sup>145</sup> "Supersized solar farms are sprouting around the world (and maybe in space, too)," *NBC News*, August 18, 2018, available at <https://www.nbcnews.com/mach/science/supersized-solar-farms-are-sprouting-around-world-maybe-space-too-ncna901666>.

<sup>146</sup> "Vistra Energy to Develop 300-Megawatt Battery Storage Project in California," *Vistra Energy*, June 29, 2018, available at <https://investor.vistraenergy.com/investor-relations/news/press-release-details/2018/Vistra-Energy-to-Develop-300-Megawatt-Battery-Storage-Project-in-California/default.aspx>.

<sup>147</sup> "Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018," p. 3.

<sup>148</sup> Bonnie Krenz, "Building a Better Energy Future in Puerto Rico," Center for American Progress, September 2018, pp. 28-29.

commission.”<sup>149</sup> The study concludes that because of PREPA’s “history of corruption and mismanagement,” a business-as-usual approach would be “unlikely to lead to significant improvements in affordability, reliability, or emissions reductions across Puerto Rico’s grid.”<sup>150</sup>

## **B. Transforming PREPA Will Take Time**

107. The Current Fiscal Plan states that it is “premised on a transformation of Puerto Rico’s energy sector in a transaction that will take at least 18 months.”<sup>151</sup> The “18-month” timeline was originally announced in January 2018. Moody’s Rating Service, in commenting on the analysis, called the “18-month” timeline “quite aggressive.”<sup>152</sup> Importantly, 6 months after it was announced, the Current Fiscal Plan nevertheless repeats the “18-month” timeline, apparently resetting the clock to begin in August, rather than January. Thus, based on the estimate stated in the Current Fiscal Plan, it would appear that PREPA is already at least 6 months behind the timeline originally announced.

108. The privatization of PREPA could encounter additional difficulties because of the complexity of the challenges facing PREPA. The “market sounding” letter that PREPA’s financial advisor prepared for potential investors provides an indication of the potential complexities in the PREPA divestiture process.<sup>153</sup> The letter stated that the transformation “could take a variety of forms,”<sup>154</sup> and asks potential investors about:

- 1) Views regarding the structure and authority of PREC;
- 2) The scope of PREC’s regulatory powers;

---

<sup>149</sup> Bonnie Krenz, “Building a Better Energy Future in Puerto Rico,” Center for American Progress, September 2018, pp. 28-29.

<sup>150</sup> Bonnie Krenz, “Building a Better Energy Future in Puerto Rico,” Center for American Progress, September 2018, p. 29.

<sup>151</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 6.

<sup>152</sup> “BRIEF-Moody’s Issues Statement Regarding Puerto Rico’s Move To Privatize PREPA,” Reuter’s, January 23, 2018.

<sup>153</sup> Citi and Rothschild & Co., “Re: The Potential Transformation of the Puerto Rico Electric Sector,” June 4, 2018, available at [https://media.noticel.com/o2com-noti-media-us-east-1/document\\_dev/2018/06/05/Solicitud%20informacio%CC%81n%20a%20mercado%20privatizacio%CC%81n%20AEE\\_1528215714857\\_11773852\\_ver1.0.pdf](https://media.noticel.com/o2com-noti-media-us-east-1/document_dev/2018/06/05/Solicitud%20informacio%CC%81n%20a%20mercado%20privatizacio%CC%81n%20AEE_1528215714857_11773852_ver1.0.pdf).

<sup>154</sup> Citi and Rothschild & Co., “Re: The Potential Transformation of the Puerto Rico Electric Sector,” June 4, 2018, p. 1.



- 3) Views on the regulatory environment regarding renewable power, distributed energy resources and energy efficiency;
- 4) The authority of PREC over new generation projects;
- 5) The authority of PREC over sale of generation assets;
- 6) The sale of PREPA generation assets to one or several parties;
- 7) The optimal fuel mix for PREPA, and views of the optimal fuel mix as presented in the Integrated Resource Plan;
- 8) The structure of the long-term contract between the generator and the distributor;
- 9) Plans for investments in generating capacity;
- 10) Plans regarding potential environmental liabilities; and
- 11) Plans regarding union relations.

109. Given the politicized relationship between PREPA and the government of Puerto Rico, any one or more of these points could become a stumbling block in the planned divestiture. Further complicating the transaction are other transformations that PREPA contemplates, including setting up a transmission and distribution concessionaire, and changing its grid from a centralized model to a distributed, mini-grid model featuring ambitious large-scale renewable energy projects uncommon even in the mainland U.S.

110. There is additional reason to doubt PREPA's ability to meet this aggressive timeline. PREPA's ongoing submissions with PREC are already behind schedule, and it recently informed

PREC that it will not be able to complete the IRP by the originally designated October 31, 2018 deadline.<sup>155</sup> Yet, the IRP will be a necessary part of the transformation and privatization process.

111. In any event, the Current Fiscal Plan demonstrates on its face that transforming PREPA will in fact take five years or more. Many of the “targets” set by the Fiscal Plan are in Fiscal Year 2023, almost five years from now. For example, PREPA plans to reduce its electricity rate to \$0.20/kWh by Fiscal Year 2023 through a combination of purchased power cost reductions, operational initiatives and CILT reforms.<sup>156</sup> By Fiscal Year 2023, PREPA also plans to improve its reliability to be in line with median U.S. mainland utility performance and resiliency.<sup>157</sup> The Fiscal Plan also contemplates \$50 to \$80 million of cost savings in Fiscal Year 2023 by restructuring PREPA’s labor force.<sup>158</sup>

112. Other elements of the PREPA plan will take more than five years. Additional fuel and purchased power cost reductions would occur “over the next 10 years.”<sup>159</sup> The “greatest opportunity” for PREPA is in the “longer term (beyond 2023) reconfiguration of Puerto Rico generation assets through [a] Transformation Plan.”<sup>160</sup> The timeline in the Current Fiscal Plan for additional system improvements also extends out for 10 years, including “Material Delivery & Logistics”, “Distribution Substation Upgrades”, “Transmission Hardening”, “DER Development”, “System Operations Updates”, and “Fuel Infrastructure Build & Hardening.”<sup>161</sup>

113. In recent interviews, Jose Ortíz, the current Executive Director of PREPA, indicated that he expected that additional structural changes will occur over the four-to-six-year time horizon.

---

<sup>155</sup> “PREPA’s (1) Compliance with the Energy Bureau’s September 5<sup>th</sup> and 18<sup>th</sup> Orders and (2) Informative Motion Regarding IRP Timeline,” September 25, 2018, *available at* <http://energia.pr.gov/wp-content/uploads/2018/09/Compliance-PREPA-CEPR-AP-2018-0001.pdf>.

<sup>156</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 42.

<sup>157</sup> Achieving this goal is contingent on federal funding. “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 42.

<sup>158</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 50.

<sup>159</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 4.

<sup>160</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 88.

<sup>161</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 65.

He estimated that the process of privatizing PREPA's electricity generation business and switching the transmission and distribution business as well as customer service into a public-private partnership, would take between five and seven years.<sup>162</sup>

114. Beyond the planned divestiture, the Current Fiscal Plan contemplates that the “aspirational” transformation of the business will continue through at least Fiscal Year 2023. Other targets are set for Fiscal Year 2030.<sup>163</sup> The long list of reforms and projects necessary for this transformation of PREPA is “aspirational” under the best of circumstances, which would include strategic leadership and management guided by solid regulatory oversight. Professional management, independent of political influence and direction-changing powers, is key to the success of this transformation, which will likely take several years. The transformation, as currently configured, may encounter several hurdles given the likely complexity of an asset sale and the permitting, development, financing, and constructing of the many generation, transmission, and distribution projects included in the plan. Current management of PREPA has not shown the ability to adequately operate the existing utility, and has given no indication that it can execute one of the more complex transformations contemplated by a utility.

### **C. A Receiver Will Help PREPA Meet Immediate and Necessary Objectives**

115. A receiver would provide independent, professional management and could take immediate, concrete steps to improve operations at PREPA. Many of these are the kinds of actions that have been previously recommended by third parties.

116. Independent, professional management can help stabilize the management of PREPA, reducing the executive and managerial churn that has contributed to PREPA's lack of accountability and dysfunction.

---

<sup>162</sup> Victor Gill Ramirez, “Jose Ortiz ‘Tenemos que movernos rapido,’” *El Dateado*, *available at* <http://eldateado.com/gasfitero-victor-gill-ramirez-bfc-jos-ortiz-tenemos-que-movernos-rpido/>.

<sup>163</sup> “Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018,” p. 71.

117. Independent, professional management would facilitate restoration of PREPA's access to the capital markets, which is necessary for its long-term goals of modernization and environmental compliance. PREPA's Current Fiscal Plan calls for increased investment to improve its generation, transmission, and transmission facilities. Indeed, the Current Fiscal Plan estimates approximately \$13.7 billion will be spent on distribution system repair, transmission system repairs and overall system improvements.<sup>164</sup> Restoration of capital market access by PREPA may also facilitate Puerto Rico's plan to use a third party to manage Puerto Rico's transmission and distribution capabilities. Access to the capital markets and privatization would both be facilitated by audited financial statements and other transparent and timely reporting, for example, which have not existed under the existing PREPA management structures.

118. There are individuals or firms that are capable of providing PREPA the independent and professional management it needs.

119. In sum, an independent and experienced manager, informed by utility industry best practices, and free from political influence, is the best solution to ensure PREPA serves its interests and its stakeholders, including the citizens of Puerto Rico.

---

<sup>164</sup> "Puerto Rico Power Authority: Fiscal Plan -- August 1, 2018," p. 63.

## VI. MISCELLANEOUS

120. My work is ongoing and my opinions are subject to revision based on new information (including documentation, reports or testimony by PREPA's expert), which subsequently may be provided to, or obtained by, me.



By: \_\_\_\_\_  
Sandra Ringelstetter Ennis

October 3, 2018

# Exhibit 1



Sandra Ringelstetter Ennis  
Chief Operating Officer and Managing Director

National Economic Research Associates, Inc.  
155 N. Wacker Drive, Suite 1450  
Chicago, Illinois 60606  
+1 312 573 2800 Fax +1 312 573 2810  
Direct dial: +1 312 573 2823  
sandra.ringelstetter@nera.com  
www.nera.com

## **Sandra Ringelstetter Ennis**

### **Chief Operating Officer and Managing Director**

Ms. Ringelstetter Ennis is NERA's Chief Operating Officer and oversees NERA's global operations, including business development, growth strategies, increasing efficiency across all aspects of operations, and the company's worldwide offices.

Ms. Ringelstetter Ennis has been involved in the energy industry for over 30 years as a consultant and expert specializing in wholesale electricity markets, asset valuation, and the modeling of electric systems. Her expertise includes market assessment, market price forecasting, power plant valuation, financing support, due diligence and transaction support, emission analyses for New Source Review (NSR) compliance, and methodologies and algorithms for the simulation of electric systems.

In the power generation sector, Ms. Ringelstetter Ennis has focused on assisting clients in the due diligence, acquisition, and financing of new and existing generating facilities. For both conventional and renewable generation projects, she has prepared independent valuations and market expert reports for internal investment review, offering memorandums, debt financing (including for the Department of Energy Loan Guarantee Program), and capital market bond ratings. She also provides market advisory services to clients regarding the impact of changes in fundamental market assumptions or proposed changes to market rules. Throughout her career, she has appeared as an expert witness regarding market analysis and power plant valuation. She has provided testimony before US District Courts, the US Federal Energy Regulatory Commission (FERC), several state commissions, and in arbitration proceedings.

Ms. Ringelstetter Ennis has extensive expertise providing analysis related to the NSR regulations of the Clean Air Act. She has provided litigation support and expert testimony for coal-fired generators in Environmental Protection Agency (EPA) and Sierra Club NSR enforcement actions, supported several clients through Section 114 requests under the Clean Air Act, performed numerous emission analyses for projects included in Notices of Violation issued by the EPA, and assisted clients in developing and implementing a process for ongoing NSR emission analyses and compliance submissions.

The foundation of much of Ms. Ringelstetter Ennis' work in the electricity sector is her expertise in the use of market simulation models, coupled with her engineering background and knowledge of power plant operations. She has led large modeling teams in complex consulting and litigation assignments including: managing analyses and model development for due diligence of all types of generating technologies including fossil-fueled, nuclear, integrated gasification, and renewables; asset acquisitions and divestitures of single facilities (generation and transmission) as well as portfolios across multiple markets; the preparation of independent market expert's reports to support debt financing in all US markets; damage and delay calculations for power plants with complex operating characteristics, including steam and power contracts for cogeneration facilities; and NSR litigation and compliance analyzing the historical and projected operation of coal-fired generators.

## Education

### **University of Wisconsin – Madison, Wisconsin**

Master of Science, Industrial Engineering-Operations Research, 1989

Bachelor of Science, Industrial Engineering, 1987

## Employment History

### **NERA Economic Consulting**

2015-Present Chief Operating Officer and Managing Director  
2003-2014 Vice President

### **AcuPower/Global Energy Decisions LLC**

2002-2003 Chief Operating Officer/Vice President

### **e-Acumen, Inc**

2001-2002 Chief Operating Officer/Vice President Product Management  
2000-2001 Executive Vice President Asset Valuation Services

### **PHB Hagler Bailly**

2000 Vice President  
1998-1999 Principal  
1996-1998 Senior Consultant

### **R.W. Beck**

1993-1996 Principal Engineer  
1990-1993 Senior Engineer

### **Madison Gas and Electric Co.**

1987-1990 Generation Planning Engineer I, II, and III



## **Professional Experience**

### **Areas of Qualification**

Power sector due diligence, asset valuation, market assessment, power market litigation support, and expert testimony; NSR litigation support, expert testimony, and emission increase analyses; and utility planning and systems modeling.

### **Asset Valuation and Market Assessment Advisory Services**

Ms. Ringelstetter Ennis' work in the power sector has focused on acquisitions of generating facilities and their finance. Ms. Ringelstetter Ennis has provided valuation services to acquirers of power plants and utility assets (generation and transmission), assisting them in acquiring more than 25,000 MW of generation. She has also supervised the preparation of independent market expert's reports that supported financing for most of the major financings in North America.

Ms. Ringelstetter Ennis has provided asset valuation and market assessment services to the Department of Energy (DOE) under the Loan Guarantee Program, bidders in asset auctions, for private developers of power generation projects, for appraisals under sale/leaseback arrangements, and for the restructuring of debt for distressed power plant projects. Prior to her affiliation with NERA, Ms. Ringelstetter Ennis was responsible for e-Acumen's and PHB Hagler Bailly's asset valuation and market assessment work. She assisted bidders in many of the generation asset auctions in the U.S. and was responsible for the valuation and market assessment for several of the largest acquisitions of generating capacity including the New England Electric System assets, the Homer City station, and the Commonwealth Edison assets. She also led both firms' work on many major financings in the syndicated loan and capital markets, including the U.S. Generating financing of the NEES assets, Edison Mission Energy's financing of the Homer City station and the Commonwealth Edison assets, NRG Energy's financing of its northeast portfolio, West Coast Power's financing of its California assets, PP&L Global's financing of the Montana Power assets, Orion Power's financing of its Northeast portfolio, and several financings of new combined cycle plants.

Brief project summaries of Ms. Ringelstetter Ennis' recent asset valuation and market assessment experience:

- Provided due diligence, market assessment, and prepared an Independent Market Report for the DOE in support of a loan guarantee under Title XVII of the Energy Policy Act of 2005 for Georgia Power Company's proposed Vogtle 3 and 4 nuclear project in Georgia. Tasks included an assessment of the supply demand balance for the region, review of the Sponsor's market assumptions including natural gas prices and climate change policies, and identifying the regulatory risks for the project.
- Performed due diligence of an investment that involved the selection of a coal-fired power plant from a list of possible options. The coal-fired facilities considered were located in Illinois (in the MISO market) and Texas (in the ERCOT market). Tasks included an analysis and assessment of the likelihood of continued electricity production for each facility. Factors

considered included: the facility's competitiveness, or position in the dispatch order in the relevant market, possible changes in market structure (new market rules that could impact generators' profitability), the state regulatory environment (views on renewables and possible changes in regulations), and compliance with existing and proposed environmental regulations.

- Performed market assessment and valuation analysis of a technology designed to relieve congestion on the transmission system. Tasks included review of detailed power flow studies and analysis of congestion and market price impacts.
- Assessed the fair market sales value of a three unit coal-fired facility located in the PJM market per the terms of a sale/leaseback arrangement. The parties involved invoked the appraisal procedure as defined under the sale/leaseback documents and needed to obtain a determination of the fair market sales value of the undivided interest from a third independent appraiser. Reviewed and assessed the condition of the power plant, the environmental upgrades required for compliance with EPA regulations, and prepared a forecast of expected revenues and costs in the PJM energy and capacity markets.
- Performed due diligence, asset valuation, and a PJM market assessment for a project selected in the New Jersey Long-Term Capacity Agreement Pilot Program. Tasks included a detailed assessment of the RPM market for the next five years, potential generating unit retirements in response to future EPA regulations and requirements, and the impact of varying natural gas price levels.
- Provided due diligence, market assessment, and prepared an Independent Market Report for the DOE in support of a loan guarantee under Title XVII of the Energy Policy Act of 2005 for UniStar Nuclear's proposed Calvert Cliffs 3 nuclear project in Maryland. Tasks included an assessment of the market including the impact of various price levels of natural gas prices, climate change policies, and identifying the regulatory risks for the project.
- Provided due diligence, market assessment, and prepared an Independent Market Report for the DOE in support of a loan guarantee under Title XVII of the Energy Policy Act of 2005 for Nuclear Innovation North America's proposed South Texas 3 and 4 nuclear project in Texas. Tasks included an assessment of the market including the impact of various price levels of natural gas prices, climate change policies, and identifying the regulatory risks for the project.
- Prepared several Independent Market Reports for the DOE in support of loan guarantees under Title XVII of the Energy Policy Act of 2005. Tasks included an assessment of the market and regulatory risks for the specific projects and technologies. The scope of each of these due diligence/valuation projects included: analysis of the sponsor's business plan, review of the financial projections and financial models, review of the industry and competitors, and a legal and regulatory environment review. Project technologies included: integrated gas combined cycle, solar (PV and thermal), and solar manufacturing facilities.

- Performed due diligence and asset valuation for a potential developer of a combined cycle facility in the ERCOT region. Independent forecasts of energy for the ERCOT region were prepared. A detailed assessment of the ERCOT market was performed including a review of the demand and supply balance, the impact of renewables on the regional supply portfolio, changes in transmission capacity, as well as change in the energy market structure. Gross operating margins were estimated under different scenarios over a 20 year study period.
- Prepared an Independent Market Consultant Report for Entergy, Inc. to support Citi and Goldman Sachs and Co. regarding the financing of Enexus Energy Corporation, a spin-off of a portfolio of merchant nuclear generating units including the Indian Point 2 and 3, James A. Fitzpatrick, Pilgrim, Vermont Yankee, and Palisades, located in New York, Massachusetts, Vermont, and Michigan. Assessed future market prices for the NYISO, ISO-NE, and MISO for a 20 year forecast period. Performed a detailed market assessment of each market and estimated the portfolio's energy and capacity revenues under several scenarios. Supported Citi and Goldman during the due diligence process for potential investors of the estimated \$4.5 billion issuance of debt.
- Performed regulatory and market risk due diligence in the acquisition of Duquesne Light and Power. Assessed Duquesne's supply portfolio and the risk in their Provider of Last Resort business. Assessed likely scenarios for a transmission rate case associated with the allocation of costs between distribution and transmission service in the context of the FERC's recent decisions. Provided independent expert reports that supported the successful attraction of debt and equity for the deal.
- Performed due diligence for a potential buyer of a combined cycle facility in the PJM region. Independent forecasts of capacity and energy for the PJM region were prepared. A detailed assessment of the PJM market was performed including a review of the demand and supply balance, the impact of renewables on the regional supply portfolio, and recent RPM auction results. Gross operating margins were estimated under different scenarios over a 20 year study period.
- Performed due diligence for a bidder in the Fox Energy Center auction. Work efforts included a detailed market assessment of the MISO market including reviews of demand conditions, projected supply, and transmission upgrades. Prepared a valuation considering merchant capacity and energy revenues once the tolling agreement for the project terminates and assessed the impact of various CO<sub>2</sub> regimes on both the dispatch (capacity factor) of the plant and the estimated gross margins.
- Performed due diligence for a bidder in the Black Hill's auction process. Performed a market assessment of the WECC with focus on the California, Colorado, and Nevada market areas. A detailed assessment was prepared of supply and demand conditions including the renewable portfolio standards and available renewable resources. In addition to preparing a fundamental forecast of market power prices over a 20 year period, a detailed analysis was performed of capacity products in the respective market areas and an assessment of the likelihood of capacity revenues for each of the assets for the period after the end date of their current contracts. Estimates of gross margins were prepared under several scenarios with a focus on natural gas prices and CO<sub>2</sub> regimes.

- Performed due diligence for a bidder in the Lake Road auction process. Assisted with valuing the plant including a detailed assessment of demand and supply conditions in the ISO-NE including estimates of the outcome of the initial Forward Capacity Market (FCM). Valued the swap and tolling arrangements that were part of the client's financing plan. Assisted the client in understanding the transmission issues and the impact of the proposed transmission additions in the vicinity of the facility.
- Performed due diligence for a bidder in the MassPower auction process. Assisted with valuing the plant including a detailed assessment of demand and supply conditions in the ISO-NE including estimates of the outcome of the initial Forward Capacity Market (FCM).
- Performed due diligence for a client evaluating whether to buy a waste coal project under development. Examined the electric power pricing basis associated with the location of the plant, the cost of the plant, the cost of fuel, and the competitive position of the plant once developed. Examined renewable portfolio standards and future environmental regulation schemes and their likely impact on the value of the project.
- Conducted a market assessment of a storage battery capable of providing ancillary services and energy shifting in the New York market. Built a model of the two settlement energy market system to assess the ability to schedule and successfully arbitrage both time-based difference in prices as well as arbitraging the discrepancies that arise between the day-ahead and real-time markets. These models recognize the constraints of the market rules and structure in the New York ISO. The models were also extended to the New England ISO.
- Performed an appraisal of the Colstrip coal-fired facility in Montana per the terms of the facility lease buy-out clause. The appraisal included the income approach, replacement cost approach, and comparable sales approach. For the income approach, energy and capacity revenues were estimated over the life of the project based on a consensus view of future market prices for the Montana region using multiple market price forecasts available from commercial vendors. The cost to construct a similar facility and the economic depreciation of the existing facility were analyzed for the replacement cost approach. A detailed analysis was also performed of recent coal-fired generating unit transactions.
- Assisted in restructuring work for large international developer with distressed assets in the U.S. Scope of work included multi-market analyses, proforma analyses, and communications with lenders.

### **Asset Valuation Expert Testimony and Litigation Support**

Ms. Ringelstetter Ennis has appeared as an expert witness for a variety of issues related to the generation sector. Most recently, she provided expert testimony regarding the analysis of the benefits of major capital improvement projects at a coal fired facility. She has also provided expert testimony regarding the valuation of a power plant in the PJM market for a contract dispute in an arbitration proceeding and provided an expert report to the FERC regarding the cost of peaking plants in New England.

Ms. Ringelstetter Ennis has appeared as an expert in US District Court, arbitration proceedings, and before regulatory commissions in Washington D.C., Massachusetts, and Texas, and the FERC.

Ms. Ringelstetter Ennis has provided litigation support in a variety of matters involving the power sector. Cases have involved damage calculations for contract breach, construction delay, and rejection of contracts through bankruptcy proceedings.

Brief project summaries of Ms. Ringelstetter Ennis's asset valuation and market assessment expert testimony and litigation support experience:

- Assisted E. ON Climate and Renewables, North America with a FERC matter related to the derivation of benefits and the appropriate allocation of transmission operating and maintenance costs for network upgrades.
- Prepared an expert report, two rebuttal reports, and provided deposition testimony on behalf of PacifiCorp in the matter Deseret Generation & Transmission Co-Operative, v. PacifiCorp, Case No. 2:10-cv-159 in the United States District Court, District of Utah. Reports addressed the quantification and valuation of disputed benefits of major capital improvements, a turbine replacement and scrubber upgrade, performed at a Hunter II, co-owned generating unit in Utah. Rebuttal report included a discussion of the transmission system and balancing authority operations.
- Prepared an assessment of the value of continued operation of a coal-fired generating unit from the perspective of the operator owner, the contractual co-owner, and an independent third party buyer. Results of the assessment were used to prepare an offer to buy out the contractual co-owner and settle the matter before continuing to arbitration.
- Performed the analysis for an expert report presenting damage calculations for an arbitration proceeding regarding rejected steam and power contracts for a cogeneration facility in the southeast.
- Provided litigation support for fair market valuations and/or appraisals of power generating assets for several proceedings. Assets were located throughout North America and included coal-fired as well as natural gas-fired technology.
- Prepared the analysis for expert testimony for an avoided cost case in Oklahoma. Topics included valuation of proposed cogeneration facility, avoided cost methodologies, various state's implementation of PURPA contracts, and review and critique of cogenerator's application.
- Led the litigation support and analysis for a power plant valuation in an assessment of delay damages. The results of the analyses were presented in an arbitration proceeding between the plant's owner and the plants construction contractor.

## **New Source Review Litigation Support and Expert Testimony**

Ms. Ringelstetter Ennis has assisted clients with NSR related analysis for the last several years. She has supported several clients through Section 114 requests as well as performed numerous emission analyses for alleged projects included in Notices of Violation and Complaints issued by the EPA and the Sierra Club. Projects analyzed include boiler tube replacements and maintenance, turbine upgrades and efficiency improvements, and other routine maintenance activities. Ms. Ringelstetter Ennis has authored or assisted in preparing expert reports for several NSR enforcement cases. She has also assisted clients in developing and implementing a process for ongoing NSR emission analyses and compliance submissions.

Brief project summaries of Ms. Ringelstetter Ennis's NSR litigation support and expert testimony experience:

- Prepared an expert report, provided deposition testimony, and trial testimony on behalf of Ameren Missouri (Ameren) in the matter of United States of America v. Ameren Missouri, Civil Action No. 4:11-CV-00077-RWS in the United States District Court for the Eastern District of Missouri, Eastern Division. Provided findings and conclusions with respect to a review and analysis of the Company's reasonable possibility emissions analyses performed for two coal-fired steam generating units before and after a set of outages. Performed capable of accommodating emissions analyses, discussed the practice of system planning, provided a review of the projections of generation that Ameren prepared contemporaneously with the outages at issue for these generating units, and provided rebuttal to Plaintiffs' experts' analyses and conclusions.
- Prepared an expert report and provided deposition testimony on behalf of PPL Montana et. al, in the matter of Sierra Club and Montana Environmental Information Center v. PPL Montana LLC, Avista Corporation, Puget Sound Energy, Portland General Electric Company, Northwestern Corporation, and Pacificorp, Civil Action No. CV 13-32-BLG-DLC-JCL in the United States District Court for Montana, Billings Division. Provided findings and conclusions with respect to a review and analysis of the Company's emissions analyses and corporate projections of future unit operations before and after several outages. Projects include boiler maintenance and turbine upgrades.
- Providing litigation support services to a confidential client with respect to a Complaint, Notices of Violation, and 114 information requests issued by the EPA for projects performed at several coal-fired power plants (EPA Region 6). Tasks include company personnel interviews, data collection and review, preparation of responses, and analysis of historical operational data.
- Prepared an affidavit (Montana Thirteenth Judicial District Court Yellowstone County) and declarations (in response to the EPA) regarding confidential business information and trade secrets with respect to generating unit data describing operating performance and availability, as well as descriptions of maintenance and capital projects for boiler and turbine upgrade projects.



- Provided litigation support services to a confidential client with respect to Notices of Violation and a Complaint issued by the EPA for “projects” performed at several coal-fired power plants (EPA Region 7). Tasks included data collection and review, actual and projected emission calculations, application of the Actual-to-Future Actual and Actual-to-Projected Actual Applicability test, and other operational and projected analyses.
- Prepared an expert report on behalf of Dairyland Power Cooperative (DPC) in the matter of Sierra Club v. Dairyland Power Cooperative, Civil Action No. 10-CV-303 in the United States District Court for the Western District of Wisconsin. Provided findings and conclusions with respect to a review and analysis of the historical operating data for two coal-fired steam generating units before and after a set of outages identified by the Sierra Club, and a discussed what effect, if any, the identified work performed during those outages had on the annual production rate for the units at issue. Discussed the practice of system planning, described DPC’s approach to system planning, and provided a review of the projections of generation that DPC prepared contemporaneously with the outages at issue for these generating units.
- Provided litigation support services to Detroit Edison in the matter of United States of America and Natural Resources Defense Council, Inc. and Sierra Club v. DTE Energy Company and Detroit Edison Company Civil Action No. 2:10-cv-13101-BAF-RSW in the United States District Court for the Eastern District of Michigan. The matter involved the alleged violation of the PSD program for a boiler project performed at their Monroe coal-fired power plant. Tasks included data collection and review, review of the Company’s PROMOD runs, actual and projected emission calculations under the Actual-to-Projected Actual Applicability test, and preparation of a declaration, supplemental expert report, and surrebuttal expert report.
- Provided litigation support services to Midwest Generation LLC in the matter of United States of America and the State of Illinois v. Midwest Generation LLC, Civil Action No. 1:09-cv-05277 in the United States District Court for the Northern District of Illinois. Services provided with respect to a Complaint filed by the EPA for violation of the NSR program for boiler and turbine upgrade projects performed at several coal-fired power plants. Tasks included data collection and review, preparing responses to Section 114 requests, performing actual and projected emission calculations, and application of the Actual-to-Future Actual and Actual-to-Projected Actual Applicability test.
- Managed the litigation support team and emission increase analyses prepared in the matter United States of America v. American Electric Power Service Corp.; Indiana Michigan Power Co., d/b/a American Electric Power; Ohio Power Company, d/b/a American Electric Power; Appalachian Power Company, d/b/a American Electric Power; Cardinal Operating Company; and Central Operating Company, Case Nos. 2:99-cv-01182-EAS-TPK, C2-99-1250 in the United States District Court, for the Southern District of Ohio. Tasks included data warehouse development, database development, PROMOD modeling review, emission increases analyses, and expert report preparation.

## New Source Review Advisory Services

- Provided NSR advisory services to a large coal-fired generating company. Services included development of a process for conducting NSR emissions increases analyses using the Actual-to-Projected-Actual Applicability emissions increase test and construction of a dynamic model to conduct the analyses for pre-project submissions. Services included working with outside counsel to prepare pre-project submissions for activities to be performed during routine planned outages. Recent analyses included emission analyses for a pollution control retrofit project and analyses of greenhouse gases.

## Recent Presentations and Publications

- Assessing the Market, EUCI's *Natural Gas Power Plan Development: For New and Converted Generation Facilities*, July 28, 2015.
- FERC Order 1000 and Public Policy Transmission Projects, James Heidell and Sandra Ringelstetter, ABA Energy Committee Newsletter, Vol. 9, No. 2, May 2012.
- FERC Order 1000 and Public Policy Transmission Projects, James Heidell and Sandra Ringelstetter Ennis, March 5, 2012.
- Emission Analyses for Pollution Control Projects: The Other NSR Pollutants and GHGs, Energy, Utility, and Environment Conference 2012, January 31, 2012.
- Setting Up a Compliant Process for New Source Review, *Natural Gas and Electricity*, July 2011.
- New Source Review: Setting Up a "Compliant" Process, Energy, Utility, and Environment Conference 2011, February 1, 2011.
- The Critical Issue of Transmission, Cost Allocation: Status and Trends, Law Seminars International, October 7, 2010.
- The Due Diligence Process, Financing Renewable Energy Projects through the DOE LGPO, Annual Ocean Renewable Energy Conference, September 30, 2010.
- New Source Review Compliance, Emission Analysis Tools, Setting Up a Process, Determining the Calculations, & Preserving a Defense, American Coal Council, July 20, 2010.
- The Critical Issue of Transmission, Who Should Pay for What and How? Law Seminars International, October 8, 2009.
- Overview of Who Is Getting Funding for What Energy Projects, A Look at the Current Climate for Project Financing, Law Seminars International, June 22, 2009.
- How to Calculate Your Emissions, The Basic Calculation and Technical Challenges and Options, The New NSR Rule: Will Your Emissions Increase? Schiff Hardin Seminar, October 25, 2005.



## **Expert Reports and Testimony in the Last 7 Years**

United States of America v. Ameren Missouri, Civil Action No. 4:11-CV-00077-RWS in the United States District Court for the Eastern District of Missouri, Eastern Division on behalf of Ameren Missouri (Ameren). Prepared an expert report, provided deposition testimony, and trial testimony.

Sierra Club and Montana Environmental Information Center v. PPL Montana LLC, Avista Corporation, Puget Sound Energy, Portland General Electric Company, Northwestern Corporation, and PacifiCorp, Civil Action No. CV 13-32-BLG-DLC-JCL in the United States District Court for Montana, Billings Division Prepared an expert report and provided deposition testimony on behalf of PPL Montana et. al,

Deseret Generation & Transmission Co-Operative, v. PacifiCorp, Case No. 2:10-cv-159 in the United States District Court, District of Utah behalf of PacifiCorp. Prepared an expert report, two rebuttal reports, and provided deposition testimony.

Montana Thirteenth Judicial District Court Yellowstone County. Prepared an affidavit and declarations (in response to the EPA).

Sierra Club v. Dairyland Power Cooperative, Civil Action No. 10-CV-303 in the United States District Court for the Western District of Wisconsin on behalf of Dairyland Power Cooperative (DPC). Prepared an expert report.

# Exhibit 2

## Exhibit 2. Materials Relied Upon

### Court and Administrative Documents:

- Exhibit C (Filsinger Declaration) to Urgent Joint Motion of Financial Oversight and Management Board for Puerto Rico and the Puerto Rico Fiscal Agency and Financial Advisory Authority for Entry of Interim and Final Orders (A) Authorizing Postpetition Secured Financing, (B) Granting Priming Liens and Providing Superpriority Administrative Expense Claims, (C) Modifying the Automatic Stay, (D) Scheduling a Final Hearing, and (E) Granting Related Relief, *In re: The Financial Oversight and Management Board for Puerto Rico, et al.*, Case No. 17 BK 3283-LTS, January 27, 2018.
- Exhibit D (Direct Testimony of Lisa J. Donahue) to Motion of Ad Hoc Group of PREPA Bondholders, National Public Finance Guarantee Corporation, Assured Guaranty Corp., Assured Guaranty Municipal Corp., and Syncora Guarantee Inc. for Relief from the Automatic Stay to Allow Movants to Enforce Their Statutory Right to Have a Receiver Appointed, *In re: Expert Report of Jeremy I. Fisher, PhD and Ariel I. Horowitz, PhD, In re: Review of Rates of the Puerto Rico Electric Power Authority*, Case No. CEPR-AP-2015-0001, November 23, 2016.
- Final Resolution and Order, *In Re: Puerto Rico Electric Power Authority Rate Review*, Case No. CEPR-AP-2015-0001, January 10, 2017.
- PREPA's (1) Compliance with the Energy Bureau's September 5th and 19th Orders and (2) Informative Motion Regarding IRP Timeline, *In re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, Case No. CEPR-AP-2018-0001, September 25, 2018.
- Public Law 114-187, 114th Congress.
- Puerto Rico Laws Act No. 211-2018.
- Puerto Rico Laws Act No. 37-2017 (H. B. 475).
- Puerto Rico Laws Act No. 4-2016 (S. B. 1523).
- Puerto Rico Laws Act No. 57-2014 (S. B. 837).
- Puerto Rico Laws Act No. 8-2017 (H. B. 474).
- Resolution and Order Establishing Calendar for Submission of Information, *In re: Review of the Puerto Rico Electric Power Authority FY19 Rates*, Case No. CEPR-AP-2018-0002, June 22, 2018.
- Resolution and Order, *In re: Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, Case No. CEPR-AP-2018-0001, August 8, 2018.
- Second Supplemental Declaration of Todd W. Filsinger in Support of Urgent Joint Motion of Financial Oversight and Management Board for Puerto Rico and the Puerto Rico Fiscal Agency and Financial Advisory Authority for Entry of Interim and Final Orders (A) Authorizing Postpetition Secured Financing, (B) Granting Priming Liens and Providing Superpriority Administrative Expense Claims, (C) Modifying the Automatic Stay, (D) Scheduling a Final Hearing, and (E) Granting Related Relief, *In re: The Financial Oversight and Management Board for Puerto Rico, et al.*, Case No. 17 BK 3283-LTS, February 12, 2018.
- Urgent Motion of Financial Oversight and Management Board for Puerto Rico for Entry of Order Confirming Appointment and Authority of Chief Transformation Officer, *In re: The Financial Oversight and Management Board for Puerto Rico, et al.*, Case No. 17 BK 3283-LTS, October 26, 2017.

### Government Hearings:

- *Current Status of Puerto Rico's Electric Grid and Proposals for the Future Operations of the Grid: Full Hearing before the Sen. Comm. on Energy and Natural Resources*, 115th Cong. (2018) (Opening Statement of Chairman Lisa Murkowski).
- *Current Status of Puerto Rico's Electric Grid and Proposals for the Future Operations of the Grid: Full Hearing before the Sen. Comm. on Energy and Natural Resources*, 115th Cong. (2018) (Statement by Rodrigo Masses, President of the Puerto Rico Manufacturers Association).
- *Current Status of Puerto Rico's Electric Grid and Proposals for the Future Operations of the Grid: Full Hearing before the Sen. Comm. on Energy and Natural Resources*, 115th Cong. (2018) (Testimony of Jose Roman Morales, PE, Acting Chairman, Puerto Rico Energy Commission).
- *Exploring Energy Challenges and Opportunities Facing Puerto Rico: Oversight Hearing before the Sub. Comm. on Energy and Mineral Resources, Comm. On Natural Resources*, 115th Cong. (2016) (Statement of Lisa J. Donahue, Chief Restructuring Officer, Puerto Rico Electric Power Authority).
- Lisa Donahue, "Public Hearing on the Puerto Rico Electric Power Authority Business Plan and Recovery Plan." Testimony before the Energy Affairs and Water Resources Commission, April 14, 2015.

- *Management Crisis at the Puerto Rico Power Authority and Implications for Recovery: Oversight Hearing before the H. Comm. on Natural Resources*, 115th Cong. (2018) (Hearing Memorandum).

#### **PREPA's Fiscal Plans:**

- PREPA, "Puerto Rico Electric Power Authority Amended & Restated Fiscal Plan - Draft," April 5, 2018.
- PREPA, "Puerto Rico Electric Power Authority Amended & Restated Fiscal Plan," January 24, 2018.
- PREPA, "Puerto Rico Electric Power Authority Fiscal Plan," April 28, 2017.
- PREPA, "Puerto Rico Electric Power Authority Fiscal Plan," August 1, 2018.

#### **Reports:**

- AlixPartners, "AlixPartners' Hand-Over Strategy Presentation to the Governing Board: Puerto Rico Electric Power Authority," February 1, 2017.
- Anne O. Krueger, Ranjit Teja, and Andrew Wolfe, "Puerto Rico, A Way forward," June 29, 2015.
- Bonnie Krenz, "Building a Better Energy Future in Puerto Rico," Center for American Progress, September 2018.
- City of Los Angeles Department of Water and Power - Power System, Financial Statements and Required Supplementary Information as of June 30, 2017 and 2016 (With Independent Auditors' Report Thereon).
- City Public Service of San Antonio, Texas, Basic Financial Statements For the Fiscal Years Ended January 31, 2017 and 2016.
- Dennis Pidherny and Lina Santoro, "Puerto Rico Electric Power Authority Power Revenue Bonds - New Issue Report," Fitch Ratings, dated April 4, 2012.
- Financial Oversight and Management Board for Puerto Rico, "Annual Report - Fiscal Year 2018," July 30, 2018.
- FTI Capital Advisors, "Accounts Receivable and CILT Report," November 15, 2014.
- Judith Waite and Jeffrey Panger, "Global Credit Portal RatingsDirect: Puerto Rico Electric Power Authority; Retail Electric," Standard & Poor's, March 26, 2012.
- Kobre & Kim LLP, "The Financial Oversight & Management Board for Puerto Rico: Independent Investigator - Final Investigative Report," August 20, 2018.
- Long Island Power Authority (A Component Unit of the State of New York), Consolidated Financial Statements and Required Supplementary Information as of December 31, 2016 and 2015 (With Independent Auditors' Report and Report on Internal Control and Compliance Thereon).
- Long Island Power Authority (A Component Unit of the State of New York), Consolidated Financial Statements and Required Supplementary Information as of December 31, 2017 and 2016.
- Nebraska Public Power District, 2016 Financial & Sustainability Report.
- Nebraska Public Power District, 2017 Financial & Sustainability Report.
- New York Power Authority, Financial Report as of December 31, 2016 and 2015.
- New York Power Authority, Financial Report as of December 31, 2017 and 2016.
- Omaha Public Power District, Powering Partnerships: 2017 Annual Report.
- Omaha Public Power District, Strategic Direction: 2016 Annual Report.
- PREPA, "Financial Statements, Required Supplementary Information, and Supplemental Schedules," year ended June 30, 2015.
- PREPA, "Fortieth Annual Report on the Electric Property of the Puerto Rico Electric Power Authority," June 2013.
- PREPA, "Monthly Report to the Governing Board," January 2014 through June 2018.
- PREPA, "PREPA's Transformation: A Path to Sustainability," June 1, 2015.
- PREPA, "Thirty-Ninth Annual Report on the Electric Property of the Puerto Rico Electric Power Authority," June 2012.
- PREPA, "Thirty-Sixth Annual Report on the Electric Property of the Puerto Rico Electric Power Authority," June 2009.
- Public Utility District No. 1 of Chelan County, 2016 Annual Report.
- Public Utility District No. 1 of Chelan County, 2017 Annual Report.
- Salt River Project, Combined Financial Statements as of April 30, 2017 and 2016 Together With Report of Independent Auditors.
- Santee Cooper, Building a Brighter Tomorrow: Annual Report 2016.
- Santee Cooper, Powering South Carolina: Annual Report 2017.
- The Liberty Consulting Group, "Final Report: Management Audit of Consolidated Edison Company of New York, Inc." June 16, 2009.

- Thomas Falcone, “Board Report on Accomplishment of LIPA’s Staff Goals for 2017,” Long Island Power Authority, January 24, 2018.
- Tina Krebs and Laura Campbell, “Utility Talent Struggles: What should You focus on First?” ScottMadden, Inc, 2013.
- Tom Sanzillo and Cathy Kunkel, “Multibillion-dollar Oil Scandal Goes Unaddressed in PREPA Contract Reform and Privatization,” Institute for Energy Economics and Financial Analysis, July 2018.
- United States Department of Energy, “Energy Resilience Solutions for the Puerto Rico Grid – Final Report,” June 2018.

#### **Data:**

- NERC Generating Unit Statistical Brochure 2, as of 2017.

#### **News Articles:**

- Andrew Scurria, “Puerto Rico Utility CEO Resigns After Less Than Four Months on Job,” Wall Street Journal, July 11, 2018
- Andrew Scurria, “Puerto Rico Utility Directors Resign, Alleging Political Interference,” Wall Street Journal, July 12, 2018
- Associated Press, “Blackout hits northern Puerto Rico following fire, explosion,” February 12, 2018.
- Caribbean Business, “Gov signs law to establish Puerto Rico Public Service Regulatory Board Reorganization,” August 13, 2018.
- Caribbean Business, “Governor recommends new Prepa chairman,” March 3, 2017.
- Caribbean Business, “Puerto Rico utility fixes outage that left 33,000 in the dark,” September 17, 2018.
- CBS News, “Tropical Depression Isaac drenches Puerto Rico, sparks power outages,” September 14, 2018.
- Daniel Bases, “PREPA board names new leaders, date set for appointing new CEO,” Reuters, July 13, 2018.
- Edward Krudy and Tom Brown, “Chief executive of Puerto Rico power authority resigns,” Reuters, June 23, 2015.
- El Dateado, “Jose Ortiz: “Tenemos que movernos rapido.””
- El Nuevo Dia, “A rey muerto ...,” October 4, 2011.
- El Nuevo Dia, “An excavator impacted line 50700 and caused the blackout,” April 18, 2018.
- El Nuevo Dia, “Confirman nombramiento de nuevo director de la AEE,” July 21, 2015.
- El Nuevo Dia, “Corrientazo a Alberto Escudero,” December 12, 2011.
- El Nuevo Dia, “Destituiran a Otoniel Cruz de la AEE por desobediente,” June 28, 2012.
- El Nuevo Dia, “Generation plants in Catano and Yabucoa,” July 21, 2018.
- El Nuevo Dia, “Oficial la salida de Juan Alicea de la AEE,” June 23, 2015.
- El Nuevo Dia, “Renuncia a su cargo Miguel Cordero,” September 26, 2011.
- Gavin Bade, “Puerto Rico governor names new PREPA CEO, board members,” Utility Dive, July 19, 2018.
- Gerardo E. Alvarado Leon, “La AEE asegura estar mejor preparada para la temporada de huracanes,” El Nuevo Dia, July 30, 2018.
- Gerardo E. Alvarado Leon, “La AEE tendra que rehacer el 20% de los trabajos de recuperacion tras el huracan,” September 20, 2018.
- Gerardo E. Alvarado Leon, “PREPA will have to redo 20% of recovery work after the hurricane,” September 20, 2018.
- InterNewsService, “AEE interviene con hurto de electricidad e instala contadores nuevos,” El Vocero de Puerto Rico, May 13, 2016.
- Karen Pierog and Jessica Resnick-Ault, “Puerto Rico power utility board quits, leaving leadership void,” Reuters, July 12, 2018.
- La Primera Hora, “La AEE detecta más de 5,000 casos de hurto de luz,” January 23, 2012.
- Leyla Santiago and Khushbu Shah, “Head of Puerto Rico's electric power authority resigns,” CNN, November 17, 2017.
- Mark Harris, “Supersized solar farms are sprouting around the world (and maybe in space, too),” NBC News, August 18, 2018.
- Mary Williams Walsh, “How Free Electricity Helped Dig \$9 Billion Hole in Puerto Rico,” The New York Times, February 1, 2016.
- Nick Brown, “Puerto Rico's PREPA gets energy industry veteran Higgins as new CEO,” Reuters, March 20, 2018.
- Phil McCausland, “Ricardo Ramos, embattled head of Puerto Rico's power utility, resigns,” NBC News, November 17, 2017.
- Philippe Schoene Roura, “Lessons Learned? Prepa Overhaul in Times of Maria,” Caribbean Business, September 20, 2018.
- PREPA, “PREPA Appoints Lisa J. Donahue as Chief Restructuring Officer to Expedite Financial and Operational Improvements,” September 4, 2014
- Press Release, “Governor of Puerto Rico recommends Justo Gonzalez as interim director of PREPA,” La Fortaleza, November 17, 2017.

- Press Release, “New CEO appointed for PREPA,” PREPA, July 18, 2018.
- Press Release, “PREPA Announces New Management Team Carlos Castro named Interim Executive Director,” PREPA, June 23, 2015.
- Press Release, “Vistra Energy to Develop 300-Megawatt Battery Storage Project in California,” Vistra Energy, June 29, 2018.
- Reorg Research, Inc., “Puerto Rico - Congressional PREPA Proposal Still a Work in Progress as Delegation Visits Puerto Rico,” July 27, 2018.
- Reorg Research, Inc., “Puerto Rico - Energy Policy and Regulatory Bill Taking Shape in San Juan as PREPA Looks to Washington,” August 29, 2018.
- Reorg Research, Inc., “Puerto Rico - Rossello Looks to Cut Donahue Contract, Says PREPA Deal Being Reviewed 'Holistically',” December 19, 2016.
- Reorg Research, Inc., “Puerto Rico - Rossello Pledges to Protect 'Most Vulnerable' in Pension Reform,” February 15, 2017.
- Reorg Research, Inc., “Puerto Rico - Rossello Says energy Reform Will Bring Down Costs, Defends PREPA Board Shakeup,” February 14, 2017.
- Reuters, “BRIEF-Moody's Issues Statement Regarding Puerto Rico's Move To Privatize PREPA,” January 23, 2018.
- Robert Slavin, “PREPA Appoints a New Executive Director,” The Bond Buyer, July 21, 2015.
- Robert Slavin, “Puerto Rico Governor Nominates New PREPA Director,” The Bond Buyer, March 3, 2017.
- Sergio Mateo, “New gas, renewable plants keep 2017 average fleet age at 29 years,” SNL Data Dispatch, January 16, 2018.
- Sin Comillas, “La AEE tiene nuevo director ejecutivo,” July 21, 2015.

#### **Others:**

- AES Puerto Rico, “AES Puerto Rico,” available at <http://aespuertorico.com/quienes-somos/>.
- Citigroup Global Markets and Rothschild & Co., “Re: The Potential Transformation of the Puerto Rico Electric Sector,” June 4, 2018.
- Edison Electric Institute, “Mutual Assistance,” available at <http://www.eei.org/issuesandpolicy/electricreliability/mutualassistance/Pages/default.aspx>.
- Paul Mauldin, “Storm Hardening the Grid,” T&D World, October 1, 2014, available at <https://www.tdworld.com/distribution/storm-hardening-grid>.
- PREPA, “History of PREPA”, available at <https://www.aeepr.com/INVESTORS/History.aspx>.
- PREPA, “Puerto Rico Electric Power Authority - \$643,530,000 Power Revenue Bonds, Series TT and \$1,300,035,000 Power Revenue Refunding Bonds, Series UU,” April 19, 2017.
- Puerto Rico Chamber of Commerce, “Eng. Miguel A. Cordero Lopez.”
- Puerto Rico Credit Conference 2013, “Juan F. Alicea-Flores,” available at <http://gdb.pr.gov/PRCC2013/Speaker/BioJuanAlicea.html>.
- Resignation Letter from PREPA’s Governing Board to Gov. Ricardo Rosselló Nevares, July 12, 2018.
- Ricardo L. Ramos Rodriguez, “Letter to American Public Power Association and Edison Electric Institute,” October 31, 2017.
- Ricardo Rossello, “Message of the Governor of Puerto Rico,” January 22, 2018.
- Sue Kelly and Tom Kuhn, “Letter to Mr. Ricardo L. Ramos Rodriguez,” October 31, 2017.
- U.S. Energy Information Administration, “Puerto Rico Territory Energy Profile,” July 19, 2018, available at <https://www.eia.gov/state/analysis.php?sid=RQ>.

# Exhibit 9

**Exhibit 9. PREPA's Short-Term Goals Listed in Its Current Fiscal Plan  
To Be Achievable Within 18-Month Period**

<b>Initiative</b> <b>(1)</b>	<b>Goal</b> <b>(2)</b>	<b>Projected Timeline</b> <b>(3)</b>
<b>Revenue</b>		
1. Opportunity sizing assessment	o Write report to FOMB on CILT collection, current accounts receivable and aged accounts receivable collection	Q2 FY 2019
2. CILT excess consumption collection	o Identify non-paying entities	August 31, 2018
	o Report on collections to FOMB	October 31, 2018
3. Current accounts receivables collection	o Achieve no net increase in aged accounts receivable month-to-month	FY 2019
4. Aged accounts receivable reduction and collection	o Reduce aged AR that is aged by one year or less to zero	Q1 FY 2020
5. Reduction in non-technical losses	o Develop initiative, savings schedule and milestones	Q2 FY 2019
<b>Fuel and Purchased Power</b>		
1. Economic dispatch	o Realize \$44.3 million of savings	FY 2019
2. Increase in LNG utilization	o Achieve 100% LNG utilization for San Juan 5 and 6 plants	April 2019
3. Price improvement for renewable purchased power	o Realize \$40 million of annual savings	FY 2020
4. Price improvement for conventional purchased power	o Realize \$110 million of annual savings	FY 2021
5. Price improvement for fuel procurement contracts	o Develop fuel procurement strategy and set savings targets	Q2 FY 2019
6. Reduction in commercial loss	o Reduce commercial loss cost by 1%	FY 2020
<b>Labor Operating Expenses</b>		
1. Employee medical benefits reform	o Put medical benefit plan out to RFP (request for proposal) in order to lower premiums	FY 2019
	o Complete implementation of the Commonwealth's uniform health plan	FY 2019
2. Employee pension benefits reform	o Size pension liabilities	August 2018
	o Finalize pension liability sizing	October 2018
	o Move to a defined contribution system and reducing benefits by 10%	FY 2020
3. Overtime benefits reform	o Launch capacity assessment	August 2018
	o Complete capacity assessment	Q2 FY 2019
4. Headcount reduction	o Deploy technology solution	July 15, 2018
	o Reduce retirement backlog by enabling employees eligible and desiring to retire to do so in a timely manner	October 2018
5. Christmas bonus removal	o Remove bonus	FY 2019
6. Rightsizing	o Launch capacity assessment	August 2018



**Exhibit 9. PREPA's Short-Term Goals Listed in Its Current Fiscal Plan  
To Be Achievable Within 18-Month Period**

<b>Initiative</b> <b>(1)</b>	<b>Goal</b> <b>(2)</b>	<b>Projected Timeline</b> <b>(3)</b>
	<ul style="list-style-type: none"> <li>○ Complete capacity assessment</li> </ul>	Q2 FY 2019
	<ul style="list-style-type: none"> <li>○ Set future reporting based on findings of capacity assessment and revise target dates for Union negotiations</li> </ul>	Q2 FY 2019
<b>Non-Labor/Other Operating Expenses</b>		
1. Opportunity sizing assessment	<ul style="list-style-type: none"> <li>○ Develop initiative, savings schedule and milestones</li> </ul>	Q2 FY 2019
<b>Maintenance Expenses</b>		
1. Opportunity sizing assessment	<ul style="list-style-type: none"> <li>○ Develop initiative, savings schedule and milestones</li> </ul>	Q2 FY 2019
<b>Resiliency and Resource Planning</b>		
1. Integrated Resource Plan (IRP) process	<ul style="list-style-type: none"> <li>○ Begin new IRP process</li> </ul>	June 2018
	<ul style="list-style-type: none"> <li>○ Complete IRP and file with PREC</li> </ul>	October 2018
2. New generation plan	<ul style="list-style-type: none"> <li>○ Complete plan with overview of generation to be added, detailed information for each generation facility, including type of generation, capacity, geography, cost to develop, rationale for new investment over upgrading the grid</li> </ul>	Q2 FY 2019
3. Near-term generation Request for Proposal (RFP)	<ul style="list-style-type: none"> <li>○ Launch near-term RFP for new generation</li> </ul>	June 2018
	<ul style="list-style-type: none"> <li>○ Have operational projects</li> </ul>	Q4 FY 2019
4. Plan to modernize grid	<ul style="list-style-type: none"> <li>○ Complete first iteration of plan with overview of major investment categories and projects PREPA is considering to deliver reliable and</li> </ul>	Q2 FY 2019
5. Mutual Aid Memoranda of Understanding (MOU)	<ul style="list-style-type: none"> <li>○ Sign MOUs to document goodwill with other utilities as non-binding agreements for mutual aid</li> </ul>	Q2 2018

**Exhibit 9. PREPA's Short-Term Goals Listed in Its Current Fiscal Plan  
To Be Achievable Within 18-Month Period**

<b>Initiative</b> <b>(1)</b>	<b>Goal</b> <b>(2)</b>	<b>Projected Timeline</b> <b>(3)</b>
<b>Finance and Operational</b>		
1. Contract evaluation	<ul style="list-style-type: none"> <li>○ Evaluate all fuel contracts, purchase power agreements, restoration, consulting and other existing and new contracts to determine long-term strategic corporate benefit or potential options for renegotiation or rejection under Title III, and arrive at final determination on all contracts</li> </ul>	Q3 FY 2019
<b>Liquidity Management</b>		
1. Improvement in current liquidity situation	<ul style="list-style-type: none"> <li>○ Return to cash flow neutrality (customer collections equal or exceed operating cash outflows)</li> </ul>	Q1 FY 2019

**Notes and Sources:**

- Data are from PREPA Fiscal Plan, dated August 1, 2018.
- PREPA's fiscal year begins on July 1 and ends on June 30 of the following year.
- PREPA is required to report to the Federal Oversight and Management Board for Puerto Rico on its initiatives related to revenues, fuel and purchased power, labor operating expenses, non-labor/other operating expenses and maintenance. PREPA has additional reporting requirements such as Work Plan 180 tracking, liquidity tracking, budget to actuals and operational metrics reporting.
- The August 2018 Fiscal Plan also includes additional goals on rate-setting, reliability, resiliency and shifting the fuel mix to lower cost power sources as part of the Transformation Plan. Most of these goals are long-term and are not included in this exhibit.